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INDUSTRIAL MEDICINE AND SURGERY

Volume 18 December 1949 Number 12

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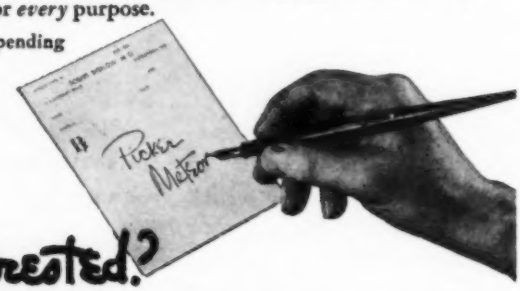

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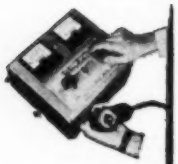

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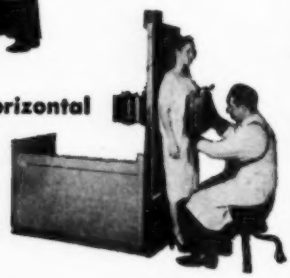

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This magazine is published to promote sound thought concerning industrial medicine and the surgery of trauma. To that end it will contain articles, news items, reports, digests, and other presentations, together with editors' comments. The editorial policy is to encourage frank discussion. On this basis contributions are invited. The editors will exercise care in checking on the accuracy of data printed but in all other respects articles and opinions of which expression is allowed are the opinions of their authors—the editors reserving in all cases the right to comment on the same in the current or any subsequent issues as they may be inclined.

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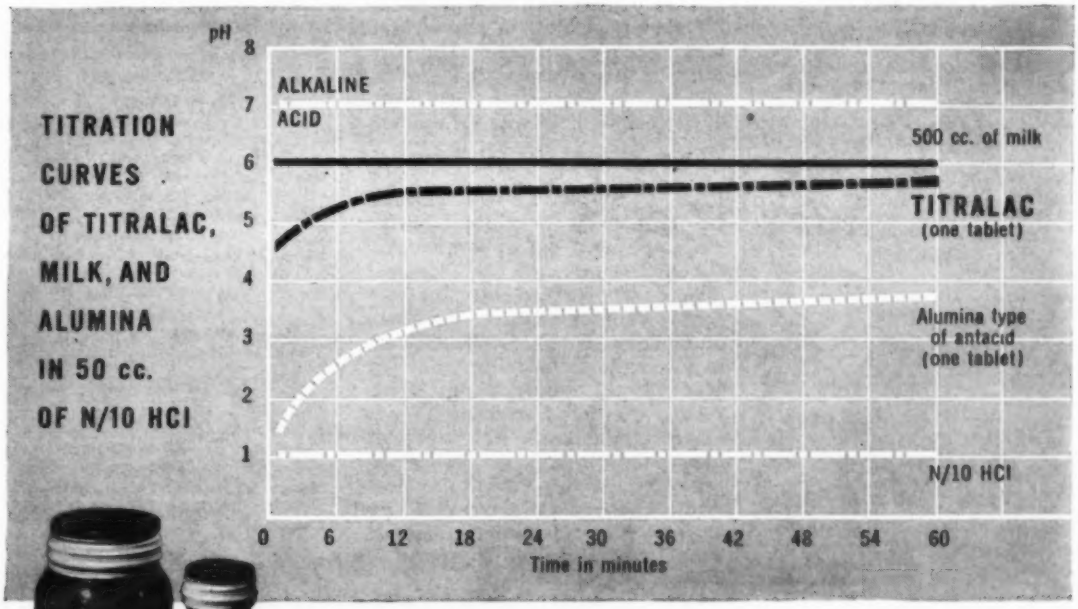

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1. Rossett, N. E., and Flexner, J.: Ann. Int. Med. 18: 193 (1944). 2. Freezer, C. R. E.; Gibson, C. S., and Matthews, E.: Guy's Hosp. Reports 78: 191 (1928). 3. Aaron, A. H.; Lipp, W. F., and Milch, E.: J. A. M. A. 139: 514 (Feb. 19) 1949. 4. Kirsner, J. B., and Palmer, W. L.: Illinois M. J. 94: 357 (Dec.) 1948. 5. Kimball, S.: in Practice of Medicine (Tice). Hagerstown, Md., W. F. Prior Company, Inc., 1948; p. 210. 6. Special Article: M. Times 76: 10 (Jan.) 1948.

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NEWS

CLARENCE OLDS SAPPINGTON, M.D., DR. P.H., Editor of INDUSTRIAL MEDICINE AND SURGERY, died suddenly at his home in Chicago, on Sunday, November 6, 1949. An appreciation of him as Editor will be found on page 528 herein.

DR. THEODORE R. VAN DELLEN, Health Editor of the *Chicago Tribune*, has been appointed Assistant Dean of the Medical School at Northwestern university. DR. VAN DELLEN, graduate of Northwestern Medical School, and an Assistant Professor of Medicine there since 1947, is Director of the Florsheim Heart Clinic at the university. He was graduated in 1936, served his internship in Wesley Memorial Hospital, and his residency in New York Post-Graduate Medical School and Hospital.

DR. H. H. SCHRENK, former industrial health official of the U.S. Bureau of Mines and the U.S. Public Health Service, has been appointed to the staff of Industrial Hygiene Foundation's Fellowship at the Institute. DR. SCHRENK will serve as a Senior Fellow in the Institute and as Research Director of the Foundation. He was formerly Chief, Environmental Investigations Branch, Division of Industrial Hygiene, Public Health Service. Previously he was chemist in charge of toxicology and later chief of the Health Branch, U.S. Bureau of Mines (Pittsburgh station) from 1928 until he joined the Public Health Service over a year ago. DR. SCHRENK holds his A.B., M.S., and Ph.D. degrees from the University of Wisconsin, and served as assistant state toxicologist in Wisconsin from 1923 to 1928. He is a director and past president of the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, Chairman of the Pittsburgh Section, American Chemical Society, and Chairman of the Industrial Hygiene Section of the American Public Health Association.

TERMINATION of the Wayne University School of Occupational Health and resignation of DR. RAYMOND HUSSEY, Dean of the School were reported to the Board of Education at its meeting as Committee of the Whole on Tues-

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day, October 13, by UNIVERSITY PRESIDENT DAVID D. HENRY.

—*Detroit Medical News*, November 14, 1949.

ON PAGE 529, under "New Horizons," there is reference to a Committee of the Council on Medical Service of the A.M.A., "to investigate over-all medical services" for employees. This is the Correlating Committee on Medical Care for Industrial Workers, and its members are DR. WARREN F. DRAPER, Washington, D.C.; DR. THOMAS A. MCGOLDRICK, Brooklyn, New York; DR. LEO PRICE, New York; DR. WILLIAM A. SAWYER, Rochester, New York; DR. FREDERICK W. SLOBE, Chicago; and DR. HAROLD A. VONACHEN, Peoria, Illinois.

DR. JOHN S. LAMBIE, Medical Director, Fisher Body Division, General Motors Corporation, Pontiac Plant, retired October 31, 1949, after more than 20 years of service. A sketch by MIL THOM in the *Pontiac Daily Press*, October 27, says in part: "Practice in the mining country of Pennsylvania; military service in the Philippine islands, Alaska and France; and his experience at Fisher are highlights of DR. LAMBIE'S professional life. When he finished medical school, he began a general practice in the coal mining district around Blairsville, Pennsylvania. To reach his patients, he had to go into the mountains in all kinds of weather, often on horseback. Not seeing much future in that area, he enrolled about 1908 in the U.S. Army medical school. This decision was the start of a military career which, for 15 years, took him to distant parts of the world. Seven years after the Philippine insurrection, he was stationed as a military doctor on Leyte. Even then, he recalls, there was talk in army circles about war with Japan. The Filipinos were worried about a Japanese invasion. During maneuvers in 1910 on the now historic Bataan peninsula, natives saw American troops in battle dress and anxiously asked if it were true that the Japs had landed. The post hospital was open to the natives and in treating them, he encountered a wide variety of unusual diseases: beriberi, leprosy, malaria, dengue fever and tropical dysentery. Frontier surgery often was necessary during his army days in Alaska. He remembers traveling long distances to see his patients.

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BIBLIOGRAPHY:

1. Brewster, J. M.: U. S. Nav. M. Bull. *49*:1, 1949.
2. Murray, H. G.: Indust. Med. *18*:215, 1949.

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62nd Annual Meeting, April 4-6, 1950, at the Drake Hotel, Chicago

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April 23-29, 1950, Chicago.

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One night he went six miles by canoe; and another time he walked 18 miles before breakfast to reach a little girl whose parents thought she had appendicitis. Despite his journey, he discovered that it was a false alarm. If he had had to operate, there would have been no nurses and no hospital equipment. Another interesting part of his stay in Alaska was his work in a Chilkat Indian village. When World War I came, COL. LAMBIE was sent to France. One of his memorable experiences there was a trip he made through the Auvergne region to establish hospital centers. In February, 1928, he began his work at Fisher Body. 'One of the greatest pleasures of my life,' he says, 'has been gaining the greater confidence of the workers at Fisher. There is tremendous satisfaction in working with people and with their problems which are beyond medical care.' In his memory, live the stories of workers he came to know when they went to Fisher's medical department with their injuries and illnesses .... He has seen industrial medicine develop from its earliest stage. He calls attention to the fact that in 1927 there were 24.06 lost time accidents in General Motors plants for every million hours worked. In 1948 this accident rate had dropped to 3.16. 'After my retirement, I am going to rest and travel in the southwest,' DR. LAMBIE says. 'I hope to complete and publish an industrial doctor's sketchbook, relating my experiences.' "

THE AMERICAN ASSOCIATION OF INDUSTRIAL DENTISTS held its Mid-Winter meeting at Hotel Statler, New York City, on December 9, 1949.

American College of Physicians, 4200 Pine St., Philadelphia 4, Pa. E. R. LOVELAND, Secretary.

American College of Surgeons, 40 East Erie St., Chicago 11, Ill.

American Conference of Governmental Industrial Hygienists, U. S. Public Health Service, Washington, D. C. J. J. BLOOMFIELD, Secy-Treas.
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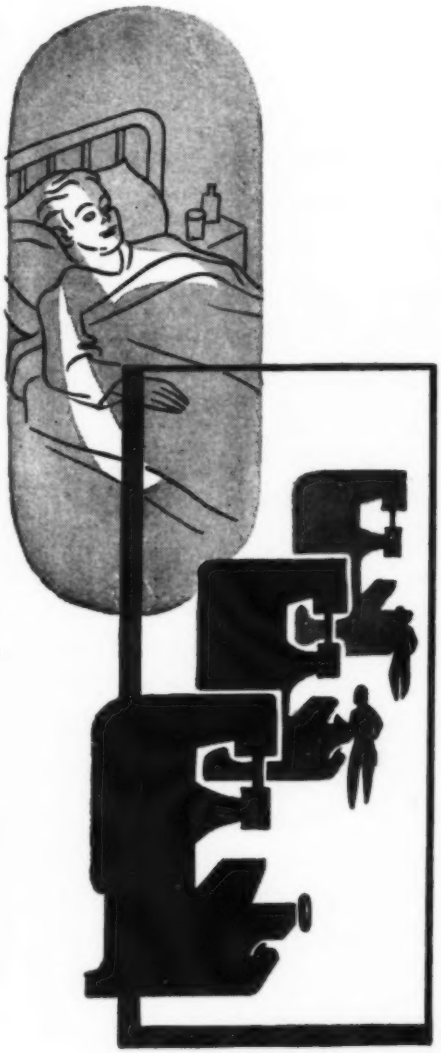

Headache, dysmenorrhea, minor injuries, muscular pains—these are some of the illnesses which send workers home early or keep them out of work for a day or two—keep machines idle and desks closed. Minor ailments, yes, but they add up to major losses of production.

Help cut this loss to a minimum by dispensing BUFFERIN, the antacid analgesic which *gives faster pain relief*. It acts twice as fast as aspirin because of its swifter absorption. Ten minutes after BUFFERIN is ingested, the blood salicylate levels are as high as those attained after 20 minutes by aspirin. BUFFERIN's 10 minute levels are doubled in twenty minutes. That is why BUFFERIN's action is prompt, why it keeps workers working.

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Your employees will appreciate BUFFERIN's speedier pain-relieving action.

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Also available at pharmacies in vials of 12 and 36 tablets and in bottles of 100.

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Antihistaminic Therapy of the Common Cold

Nature of the Common Cold

Since the work of Kruse in Germany, and of Shibley and associates in this country, it has been generally accepted that the common cold is caused by a virus, as yet unidentified. Although no specific therapy has yet been discovered for the infective agent, investigators have noted a marked similarity between allergic symptoms and many of the symptoms of the cold. The report of Troescher-Elam and others that the nasal secretions of patients with colds contained twice as much histamine as was found in allergic rhinitis emphasized the allergic component of the common cold.

In an editorial in the J.A.M.A., September 10, 1949 on allergy in epidemiology of the common cold the view is expressed that cold-susceptible patients often present borderline or subclinical types of allergy. According to Fox and Livingston the common cold is actually an allergic response to the cold virus or its products.

The present-day concept of the phenomenon whereby latent pathogens located in the upper respiratory tract suddenly become the virulent secondary invaders of the common cold may be outlined as follows:

1 The cold virus comes in contact with the tissues of the upper respiratory tract.

2 An allergic reaction follows characterized by edema of the mucous membranes.

3 There may be an associated trigger mechanism such as chilling, ingestion of food to which one is sensitive, etc., which further stimulates the allergic reaction.

4 The edematous mucous membranes lose their normal protective powers and provide a better culture medium for the cold virus and other pathogens.

5 Further invasion of the body by pathogens may follow, causing the complications of the common cold.

Thus, it is readily seen that counteracting the allergic reaction can break the chain in this course of events.

The Role of Antihistaminics

In the September, 1947 issue of the United States Naval Medical Bulletin, Brewster reported that antihistaminic therapy in the common cold gave unusually satisfactory results. In a later series of 572 patients treated with any one of five different antihistaminics

results were obtained which confirmed this earlier impression. Similar findings were reported by Gordon on 500 cases of upper respiratory infection, and by Murray on 494 patients treated with antihistaminics.

These studies point out several important facts:

a that 70-90% of colds are aborted or alleviated with antihistaminic therapy;

b that the effectiveness of treatment depends on prompt institution of therapy;

c that antihistaminics are effective as a group;

d that the reduction of sneezing and coughing usually effected, regardless of the duration of the cold itself, reduces the spread of the common cold by eliminating droplet exposure.

Therapy

Inhiston is the potent antihistaminic 1-phenyl-1-(2-pyridyl)-3-dimethylaminopropane characterized by effectiveness of antihistaminic action and low incidence of undesirable side-effects. It has been proven in numerous clinical studies in a variety of clinical conditions. Medical literature has appeared based on comparative clinical studies stating that this particular compound is superior to some of the earlier preparations in effectiveness and absence of side-effects. Laboratory studies show that the therapeutic index — the ratio of potency to toxicity—of *Inhiston* is 135.* This compares most favorably with the ratios of potency to toxicity of widely used older antihistaminics which range from 48 to 70. Therefore, the maximum recommended daily dosage of *Inhiston* is only 60 mg. whereas the recommended dosage of most other antihistaminics must be 100 mg. or more, per day. *Inhiston's* lower effective dosage level is of real advantage since it further reduces the possibility of side-effects.

Inhiston, therefore, is a truly effective antihistaminic for control of the common cold. When taken at the first sign of a cold it can abort the cold. Taken later, *Inhiston* helps shorten the duration of the cold, reducing cross-infection by stopping excessive nasal secretion. Its availability without prescription indicates clinical safety and enables each individual to have it within reach at the very first sign of the common cold, the optimum time to commence antihistaminic therapy.

The *Inhiston* package is plainly and carefully labeled to emphasize when the drug should be taken and when discontinued, and how much should be taken. A separate dosage schedule is given for children, and specific warning is made in regard to possible drowsiness. Professional samples of *Inhiston* are available upon request.

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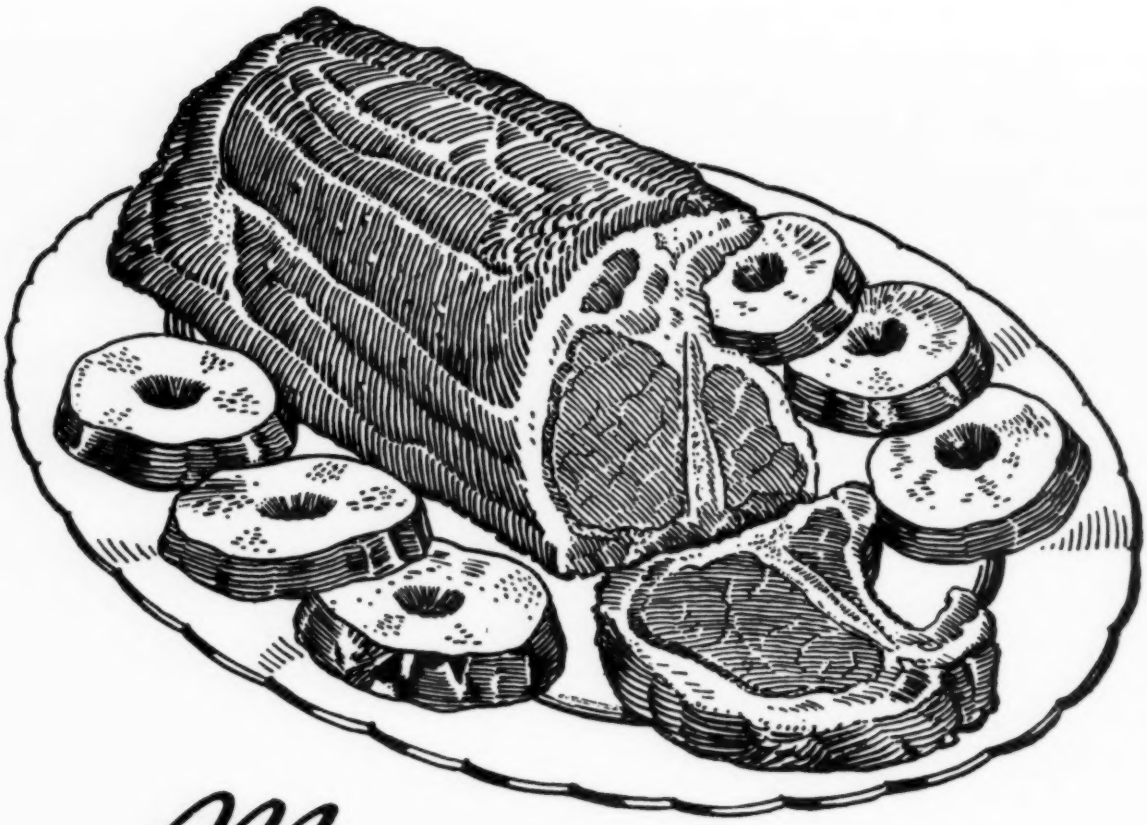
TRADE MARK
the anti-histamine tablet
12 Tablets: each tablet contains 10 mg. 1-phenyl-1-(2-pyridyl)-3-dimethylaminopropane.
TO BE TAKEN AT FIRST SIGN OF A cold



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*McLester, J. S.: Protein Comes Into Its Own, J.A.M.A. *139*:897 (Apr. 2) 1949

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Relief is immediate—complete—prolonged. No side reactions except occasional transient stinging. Convenient to use and carry.

Non-refillable. Provides several hundred applications. Dosage one application to each nostril every 3 to 4 hours.

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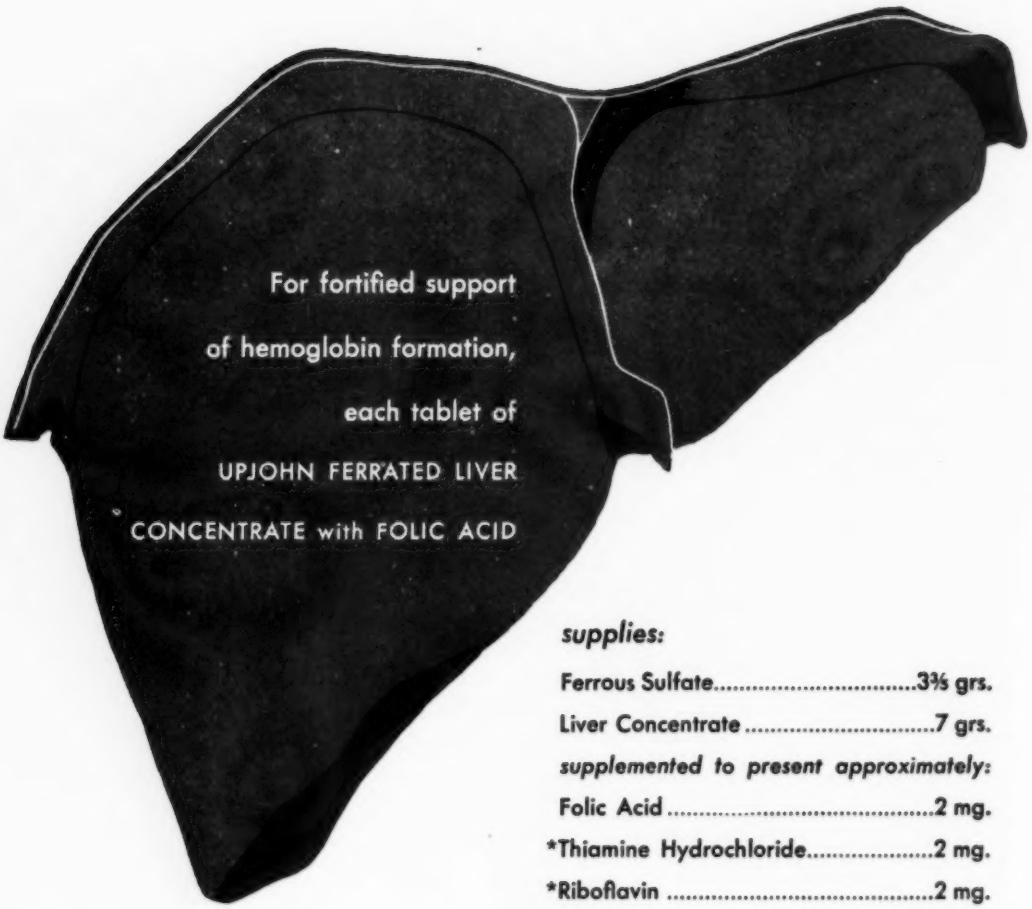

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Complete literature and samples sent to physicians on request.

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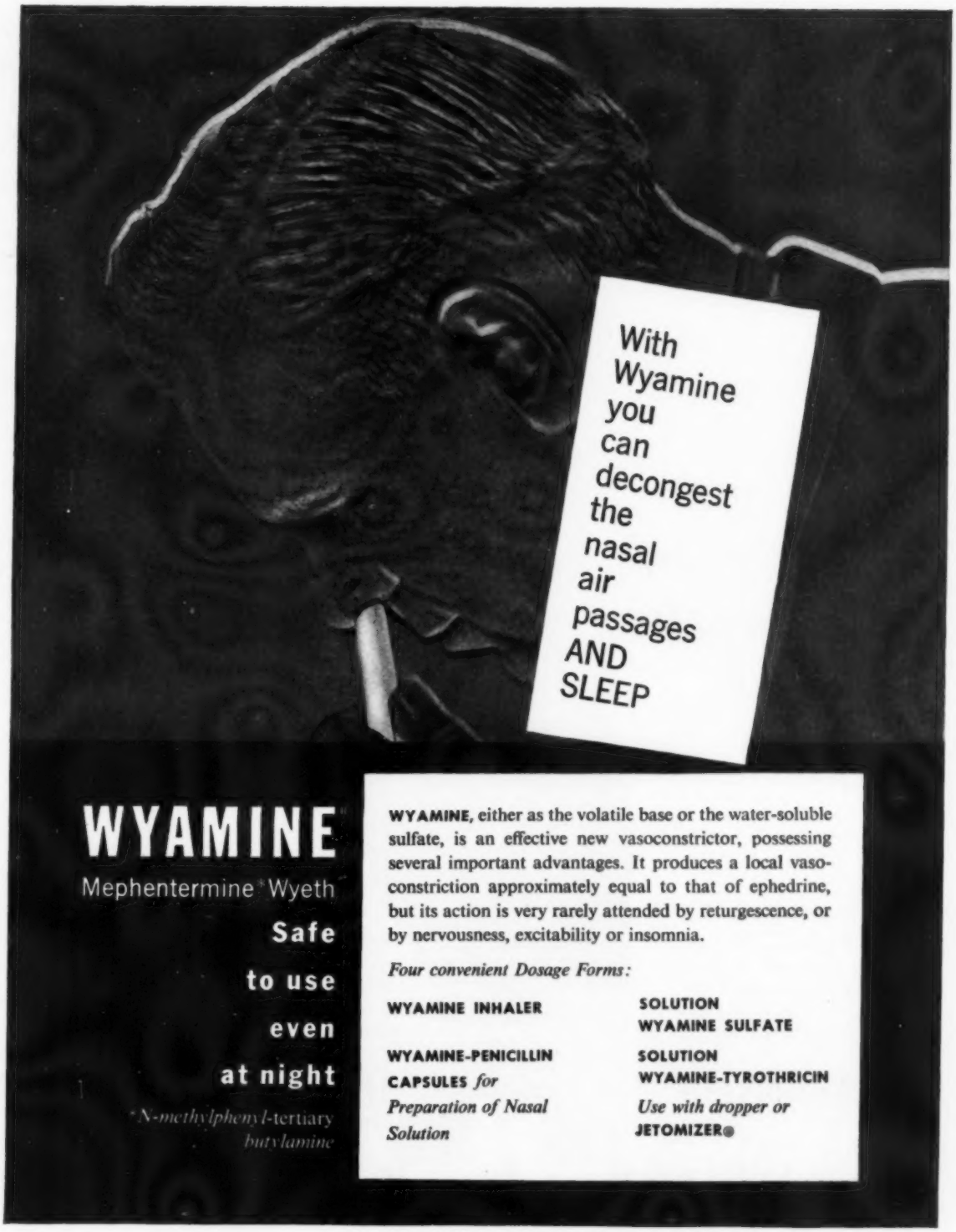

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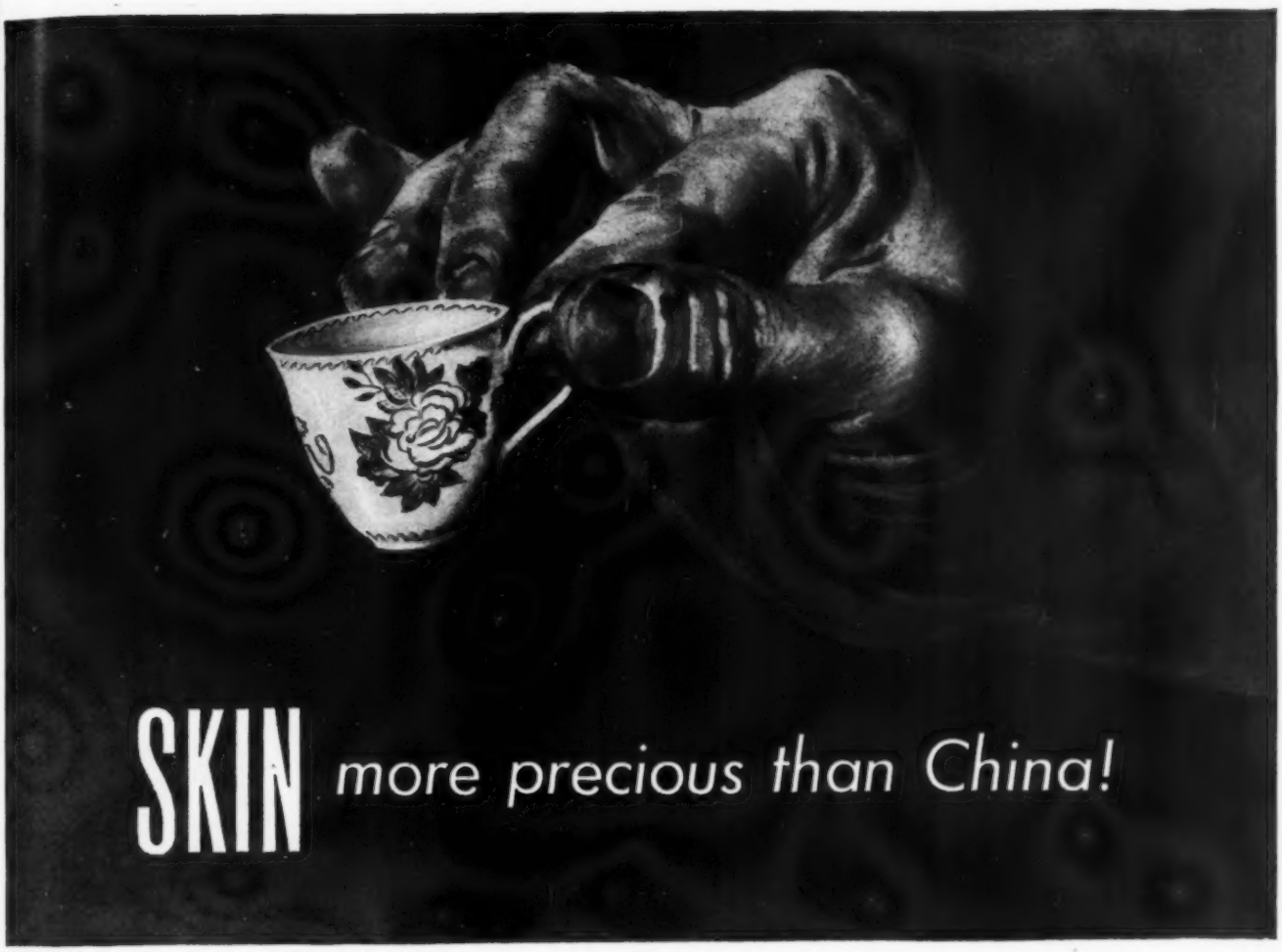

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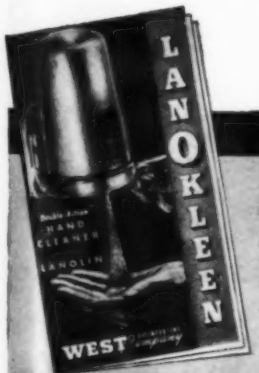

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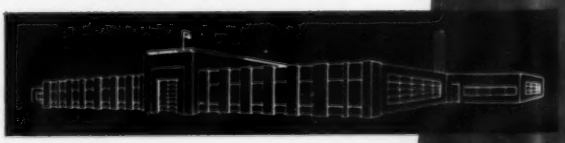

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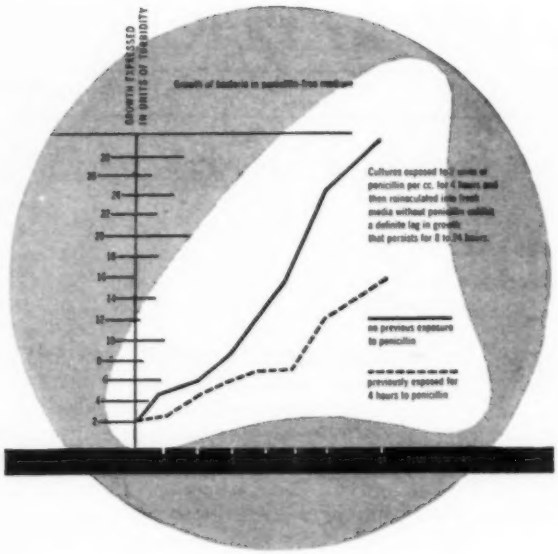
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Growth of bacteria in penicillin-free medium
Cultures exposed to 5 units of penicillin per cc. for 4 hours and then reinoculated into fresh media without penicillin exhibit a definite lag in growth that persists for 8 to 24 hours.
no previous exposure to penicillin
previously exposed for 4 hours to penicillin

LAG IN GROWTH OF BACTERIA FOLLOWING A PERIOD OF EXPOSURE TO PENICILLIN

Growth Curves of a Strain of Hemolytic Streptococcus Isolated from Human Infection

Data from W. A. Altemeier, Ann. Surg., 128:708, October, 1948

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INDUSTRIAL MEDICINE AND SURGERY

Volume 18 DECEMBER 1949 *Number 12*

Influenza 'B' Epidemic in Industrial Workers in Curacao

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THE absenteeism of the group of 8,927 industrial workers in Curacao under consideration had been lower during the first four months in 1948 than in previous years. Medio May there was a gradual increase and ultimo May had the highest percentage in 1948. From June 6 to 18 there was a rapid increase in absenteeism. We had the impression that this was primarily due to a much greater number of upper respiratory infections. Many of these were suggestive of an influenza virus infection, and in early June it was evident that we had an epidemic, presumably influenza, on our hands.

Serumpairs of 66 patients, taken with an interval of 5-14 days were sent to the laboratory of Leyden's University Hospital, clinic for internal diseases (Prof. Dr. J. Mulder).*

Patients' blood was drawn in a sterile jena glass tube. After a few hours the serum was separated by centrifuge in the same tube and transferred via a sterile pipette to another tube which was kept in the refrigerator for 2-13 days till shortly before shipment in the pantry refrigerator of the KLM trans-ocean plane.

Serumpairs of 10 patients from a different group served as control.

It became evident that also among other groups of the population of Curacao and Aruba, and afterwards also from various places around the Lake of Maracaibo in Venezuela, the same or a similar epidemic occurred.

Data for this investigation were observed in a group of 8,927 industrial workers in Curacao.

Of the 66 serumpairs examined 34 were positive for influenza B. Seventeen of these 34 patients were people from Curacao and Bonaoire; six came from Suriname; seven from several British West Indian Islands; four from Madeira.

Of all these 8,927 patients 3,827 lived in barracks in a workers' settlement near the refinery, and 5,100 partly in bungalows in that same settlement and partly in private homes scattered all over the island. Among the barrack inmates we observed 10 cases, or 0.26%, while 22 positive cases were seen in 5,100 other workers, that is 0.43%. Positive cases occurred in only six of the 22 barracks: three cases in one barrack, two cases in two barracks, and one case in each of three barracks.

Since barrack inmates and other workers were equally divided over the various departments of the industry, and since most of the work was in the open air where only tolerable concentrations of potentially irritating gases and fumes were prevailing, it is striking that the sick rate of barrack inmates was lower than that of privately living workers. The barracks are subdivided by partitions, but still more than 25 workers live and sleep in one barrack room. Consequently chances of air-borne infection are greater for them than for the other workers. In this warm country blankets and even sheets are used exceptionally in dormitories. Floors and lower parts of walls in the barracks are regularly treated by mopping with spindle oil. This treatment was intensified and done more frequently as soon as an increase in upper respiratory infections became apparent. This might well account for the lower sick rate of barrack inmates during the influenza B epidemic.

This epidemic first appeared simultaneously in depressed places all over the island, and a few days later the first cases were seen in some of the rather widely separated dormitories of the barrack quarters. Several barracks remained free of the infection. A similar epidemic pattern was seen by Sigel et al[1] during an influenza A epidemic in a vaccinated population.

AN UNEXPECTED, unexplained sudden increase in upper respiratory infections should always be suggestive of an influenza epidemic. Typical examples for this warning are the epidemics described by Mudd[2] among the workers of the Chevrolet Grey Iron Foundation in Saginaw, Michigan, USA, and by Norwood and Sacks[3] among laborers of the Hanford Engineer Works, E. I. du Pont de Nemours & Co., Richland, Washington.

In our epidemic under consideration, the increase in upper respiratory infections was really unexpected and unexplained since it was not due to hemolytic streptococci, and was not accompanied by chilling of patients' bodies during work, or to the hypothetical virus of primary atypical pneumonia. In all patients the blood serum cold-agglutination test was negative.

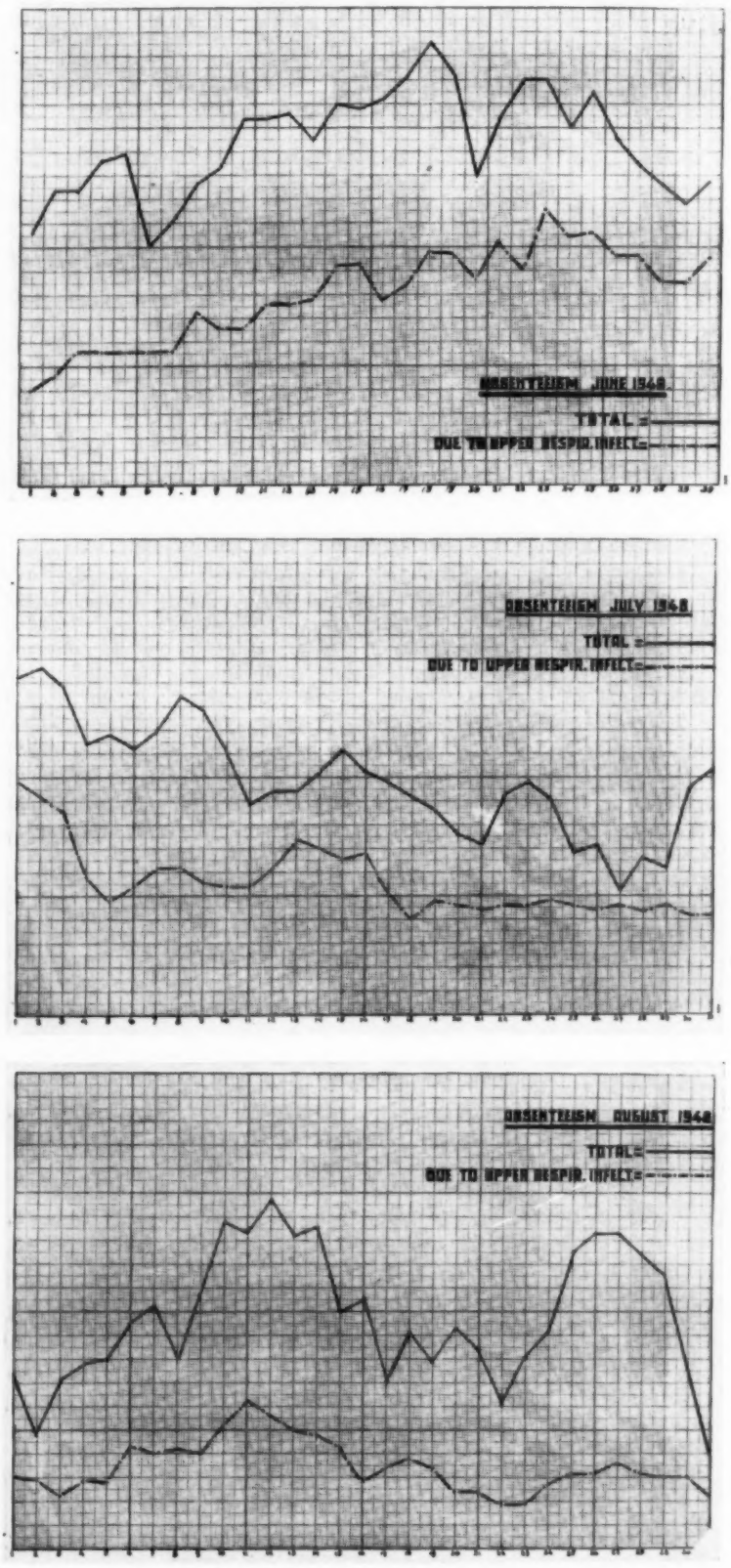
We want to express our sincere thanks to the Royal Dutch Airlines Company (KLM) for its cooperation in this investigation, which would have been impossible without the help of their efficient ground-organization and flight personnel.

It remains unknown from where this influenza B epidemic invaded Curacao during the month of June, 1948. As far as we know this epidemic was not reported anywhere in the North —or in South American ports or elsewhere in the Caribbean area or connecting European airports. Neither did we notice any evidence of the presence of the influenza B virus in Curacao during the previous months. Kelter and Chapman[4] observed that the influenza B virus was present among the population several months before the actual outbreak of the epidemic. This presence of the influenza virus previous to an outbreak of an epidemic probably does not cause any increase either in over-all sick rate or in upper respiratory infections, and cannot be detected unless a special investigation is undertaken. This was performed by Francis[5] who found scattered cases of influenza B throughout 1945 in the U.S.A. and observed that the disease reached epidemic proportions in November and December of that year.

Most workers on influenza agree with Stanfield and Stuart-Harris[6] that the types A and B influenza cannot be differentiated clinically. We had the same experience comparing an influenza A epidemic in October-November, 1947, and the B epidemic in June-July, 1948.

Most industrial medical departments where statistics are kept find that respiratory infections head the list of medical causes for employee absenteeism (Norwood and Sachs[3]). It is impossible to differentiate clinically influenza from other respiratory infections. According to Anna Baetjer[7] it is, therefore, at least more practical to evaluate the course of an influenza epidemic in industry by the over-all rate of acute respiratory infections than by the rate of proved influenza cases.

When we look at a diagram of the over-all absenteeism percentage and the percentage of acute respiratory infections of our workers over the period May 4 through August 31, 1948, we notice that both curves appear



Rise and decline of epidemic of influenza in June and July. Absenteeism due to respiratory infections (broken line) and total absenteeism (solid line) during epidemic. In August aftermath of gastro-intestinal disturbances

to run parallel—most probably the epidemic ended its natural course during the second half of July. Serologically positive cases were not found afterwards. The first positive sera were from a patient who became ill June 9 and the last positive sera were from a patient who became ill July 13. The duration of this epidemic was at least five weeks and most probably somewhat longer (see the graphs).

The peak of the epidemic was on June 18. That day we had 153 sick laborers, that is an absenteeism of 1.71%, of which 37 cases, or 24%, were due to respiratory infections. The absenteeism due to respiratory infections was then 0.41%.

Not until August 31 did the absenteeism and the number of respiratory infections return to normal, viz:

Absenteeism 0.87%.

Respiratory cases 8 (= 0.09% of all workers or 10.3% of all absentees).

Although the total absenteeism was double the normal at the peak of the epidemic, the number of respiratory cases of the total absentees was five times the normal.

The average duration of illness, or rather the average absenteeism in this epidemic, was 4.3 days. Only three patients had an absenteeism of seven days, and six patients one of six days. The majority of the patients had an absenteeism of three, four or five days.

The number of pneumonia patients hospitalized during the period of May through September, 1948, was not greater than in previous years. In none of these pneumonia patients was a positive serology for influenza found; neither was the cold agglutination test of their blood serum positive. Although our influenza B epidemic was clinically very similar to the Philadelphia epidemic mentioned by the Editor of the *Journal of the American Medical Association*,[9] we did not see additionally numerous cases of viroid or viral pneumonia ("typical atypical pneumonia"). We did see however, many cases of gastro-entero-colitis with dysenteriform diarrhea immediately following the influenza B epidemic during the last week of August, 1948, giving rise to an absenteeism peak of 1.43%. In none of these patients were dysentery bacilli recovered on culture of rectal smears, while intestinal parasites were absent from the stools. It was noted that in these patients there was no evidence of involvement of the respiratory tract. Similar events were reported in Philadelphia by the Editor of the *Journal of the American Medical Association*,[9] and by Reimann et al.[10] The cause of this "intestinal flu" could not be determined. The blood serum of 10 typical cases was serologically negative for influenza.

Prodromi

THE prodromi were not typical. A sudden onset characterized by rather severe constitutional symptoms as in van Ravenswaay's influenza A epidemic[8] was encountered frequently.

Most of our patients complained about increasing headache and backache, gradually developing dry, slightly sore throat and blocked nose. Most of the patients had to discontinue work on the day following the appearance of the initial symptoms (see Table 1).

TABLE 1.

2	patients stopped work on the 1st day of illness
22	patients stopped work on the 2nd day of illness
6	patients stopped work on the 3rd day of illness
2	patients stopped work on the 4th day of illness
1	patient stayed on, on the job.

Tables 2 and 3 show the frequency of complaints and symptoms in the patients who had a positive serologic reaction.

TABLE 2.

	Patients	%
General malaise and fatigue	34	100
Headache	34	100
Dry sore throat	34	100
Lumbar pain	25	73
Pain in limbs, chest and eyes	19	56
Chest pains plus cough	19	56
Cough	22	65
Cough, productive	14	41
Shivering	23	67

TABLE 3.
FREQUENCE OF SYMPTOMS

Symptoms	Patients	%
Vomiting	8	22
Relative bradycardia	3	9
Relative tachycardia	7	20
Pharyngitis	34	100
Tonsillitis	32	94
Rhinitis	26	76
Conjunctivitis	4	11

A relative bradycardia during the first examination of the patients was recorded only three times, that is in 9% of the cases. On the other hand seven patients, or 20%, presented a relative tachycardia at their first visit to the Policlinic. A relative tachycardia remained for some time when the temperature had returned to normal in 10 patients, or 29%.

Herpes labialis was not seen at all in this epidemic. Even two patients who on former occasions frequently had a labial herpes following sunburn or other infections remained free from it during their influenza B.

Almost all, that is 32 of the 34 patients, had a tonsillitis. All 34 patients had a red pharynx and 26 had a rhinitis. One patient had a sanguinolent nasal discharge, a smear of which did not yield hemolytic streptococci or diphtheria bacilli on culture. A purulent nasal discharge was seen in only two patients, neither of whom had a purulent tonsillitis. Notwithstanding the fact that eight patients had previously had several attacks of acute tonsillitis, pusprops or a purulent tonsillar exudate was not seen in any of the patients during their influenza B. Throat smear cultures all remained negative for hemolytic streptococci. Only non-hemolytic streptococci or yellow staphylococci, or both, were recovered on throat smear cultures.

Serious complications were not encountered during this influenza B epidemic.

Only two cases of mild pulmonary complications were seen. One was in a 36 year old Curacao man, incidentally having a sickle cell trait, but no anemia, who presented physical signs of an exudative process in the right subclavicular region with a duller percussion tone and crepitant rales. He had an absenteeism of only four days and was not seen again, apparently having no more complaints. The cold-agglutination test of his blood serum remained negative. The blood pressure, on former occasions recorded at 135/80 was found to be lowered to 115/70 with a W.B.C. count of 12,900 while eosinophils were absent from the blood smear.

The other patient was a 27 year old Curacao switchboard operator who presented physical signs of an atelectasis of part of the right lower pulmonary lobe, with a negative blood serum cold-agglutination test. She stayed on the job and had no absenteeism.

A collapse was not seen in, or reported by, any of the patients. Blood pressure recordings however were markedly lower in 13 patients, that is in 38%, than on several previous occasions. In two Portuguese patients, with previous blood pressure recordings of 165/90 and 150/80, the readings at first examinations of their influenzal disease were 110/60 and 110/75 respectively. In one Curacaoleno a previous blood pressure of 120/70 fell to 95/60. A blood pressure control several weeks afterwards revealed again readings at the pre-influenzal level.

A relapse or second illness as described by Mudd[2] was seen in two patients. One was a 23 year old Curacao man who had a relapse 20 days after the beginning of his influenza B and 16 days after resuming work. He had exactly similar symptoms during his relapse as in his original attack: headache, sore throat, pharyngitis and fever. In the relapse he had a marked eosinophilia of 17% which was not present during his original attack or on previous occasions. He had not received sulfonamides, had no allergic symptoms and worm eggs were absent from the stools, while filaria larvae were not found in day or night blood.

The other patient was a 51 year old man from Bonaire who had a relapse five days after recovery from his original influenza B episode. This relapse was characterized by laryngitis and spastic bronchitis. He was the only patient on whose throat smear culture hemolytic streptococci were recovered in connection with an influenza B. This culture did not yield hemolytic streptococci during the initial illness. The streptococci laryngitis reacted promptly to sulfadiazine.

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That Social Security Trust Fund

AFTER the funds have been paid in to the U. S. Treasury into a trust fund, they have been invested in U. S. securities or original certificates of indebtedness intended especially for this trust fund, rather than regular U. S. government issues quoted in the open market. In practice, the funds, collected from payroll taxes, have been expended for ordinary expenses of government unrelated to old age benefits, and the trust fund consists of Federal I.O.U.'s. Once, when Herbert Hoover was President, he was asked for a pardon for a postmaster convicted of larceny. The wife of the convict pleaded that her spouse had had a long record for honest dealings, and had never breached the law prior to the act for which he was sent to jail. She said that in that case, while it is true that he took money out of the till of the post office, he put into the till his own I.O.U.'s in equal amount.

—MERRYLE S. RUKEYSER, in *Chicago Herald-American*, November 4, 1949.

New Developments in Medical and Surgical Treatment of Pulmonary Tuberculosis

GEORGE W. HOLMES, M.D., F.A.C.S.,
Chest Service, Illinois Central Railroad System Hospital,
PAUL A. ALFANO, M.D.,
Thoracic Surgical Service, Municipal Tuberculosis Sanitarium,
Chicago

IT IS becoming more and more evident that industry must take an active part in the diagnosis and treatment of suspect pulmonary tuberculosis found among its employees. It is not possible for county, state or Federal tuberculosis organizations to properly handle industrial employees found to have suspect or active pulmonary tuberculosis. Inadequate civil appropriations and increased medical costs have resulted in a shortage of sanitarium facilities for rapid and efficient medical diagnosis of such cases. Massive 70 mm. chest x-ray survey programs are uncovering innumerable cases of suspect pulmonary tuberculosis which require practical and sensible medical work-up before a definite diagnosis of active or inactive pulmonary tuberculosis or non-tuberculous pulmonary conditions can be established. Industrial physicians will soon be encumbered with numerous reports of such x-ray surveys necessitating that employees with suspect pulmonary lesions have further medical observation or be given leave of absence until the activity of their pulmonary lesion or differential diagnosis has been determined.

Pulmonary tuberculosis or suspect pulmonary tuberculosis still remains the number one cause of chronic and prolonged disability to industrial employees, and it is still the most devastating to the industrial organizations and to the employee's family.

The purpose of this paper is to show that the diagnosis and the treatment of pulmonary tuberculosis are gradually evolving into a definite pattern, and that there are specific forms of treatment for the different stages of the disease. In the past, either willfully of unwittingly, the medical profession has made the diagnosis and treatment of pulmonary tuberculosis a problem with much hocus-pocus. There are still the far-advanced cases of pulmonary tuberculosis beyond any form of medical treatment which industrial physicians should be able to recognize, and such cases should be relegated to private or civil institutions. The following method of diagnosis and treatment of pulmonary tuberculosis has been tried and proved by many years of experience with a large volume of cases in a great industrial city.

It is presented as a point of departure that other industrial medical departments might work from, and it is hoped that in the future the diagnosis and treatment can become more specific.

Presented at the Sixty-First Annual Meeting of the AMERICAN ASSOCIATION OF RAILWAY SURGEONS, Chicago, June 30, 1949.

ALL EMPLOYEES with chest x-ray evidence of infiltration are considered as pulmonary tuberculosis suspects, activity undetermined. Such cases are given a tuberculin test (1 to 10,000 and 1 to 1,000) and receive a physical examination including blood count and sedimentation rate. Immediate sputum studies are done in a qualified laboratory and include direct smear and culture of sputum, stomach wash, and bronchoscopic specimens for tubercle bacilli. If the tubercle bacilli are found in any of the above tests the diagnosis of the case is changed to pulmonary tuberculosis, active, and treatment is instituted. If the tubercle bacilli are not found after immediate exhaustive study by laboratory means, the case remains classified as pulmonary tuberculosis, activity undetermined. If the clinical symptoms are significant, the patient is given a three to six months leave of absence and instructed to remain at home on modified bed rest (18 hours daily) and on a high caloric diet. The patient is instructed that he must gain weight and be re-evaluated at the end of that time before returning to his previous job. It is interesting to note that these patients are more cooperative than sanitarium patients, mainly because it is imperative that they fulfill the requirements of the industrial medical service before they can return to work. In cases that remain diagnosed as pulmonary tuberculosis, activity undetermined, the differential diagnosis of all chest diseases must be then considered and may be done by industrial medical departments or referred elsewhere. If active pulmonary tuberculosis has been accurately ruled out by an efficient industrial medical service, the problem of differential diagnosis for the patient and industry is made much easier and can be done with the minimal loss of time.

THE remaining portion of this discussion will be concerned with the case that is found to have tubercle bacilli in the sputum, or gastric or bronchial secretions. Such cases are classified as pulmonary tuberculosis, active. All such cases should be immediately hospitalized and absolute bed rest instituted. Bed rest still remains the first and main bulwark in the treatment of pulmonary tuberculosis. It is no longer necessary to plan on six months to two years of bed rest before further treatment can be instituted, and usually in a period of one to two months of bed rest followed by clinical observation and x-ray studies, it can be determined whether the pulmonary tuberculous process is progressive or

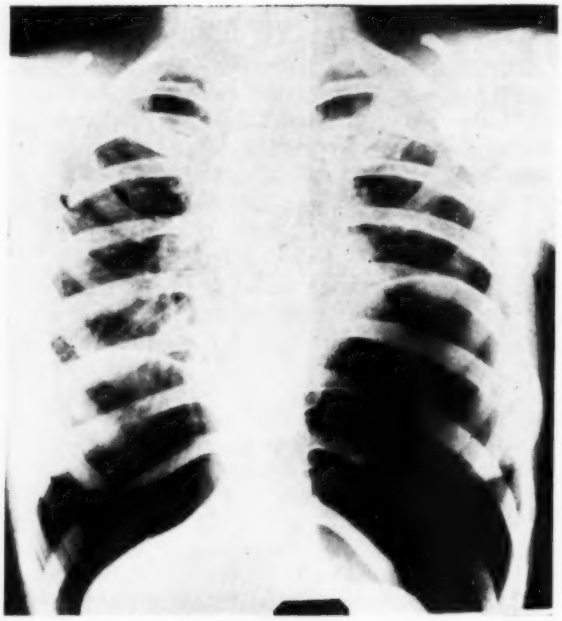

Fig. 1.
Case illustrating pneumoperitoneum for treatment of bilateral active pulmonary tuberculosis

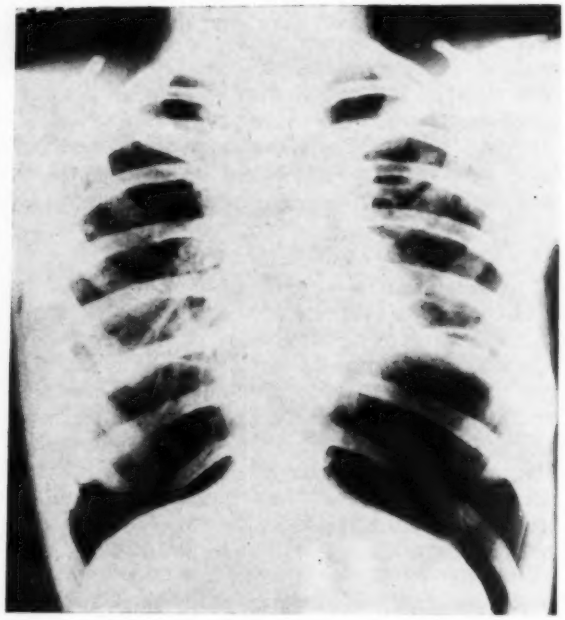

Fig.1-A.
Same showing pneumoperitoneum with left phrenic nerve crush. Bilateral pulmonary tuberculosis regressing

regressing. Cases which show progression of the disease on bed rest should be given a course of streptomycin therapy. Streptomycin therapy alone or combined with other antibiotic and chemotherapeutic drugs has done much to shorten the duration of active pulmonary tuberculosis,[1] and to prepare the patient for some form of collapse therapy which will hurry the arrest and healing of the pulmonary lesion. Streptomycin is a toxic drug; however, the dihydro form is less toxic. Large doses, given for a long time, will often cause auditory and vestibular nerve disturbances and may be toxic to the kidneys. Therefore, streptomycin is given only in cases of proved active pulmonary tuberculosis and in relatively small doses for periods from 60 to 120 days in the treatment of active pulmonary tuberculosis. Actually, streptomycin is indicated in any proved acute tuberculous process whether it be pulmonary or extra-pulmonary (infections of trachea, bronchi, kidneys, gastro-intestinal tract, meninges, renal and bone) and in chronic conditions complicated by cutaneous draining sinuses. Much work is being done combining streptomycin with other drugs in the treatment of active pulmonary tuberculosis, but, so far, the work is still experimental though promising. Streptomycin may be combined with bed rest as soon as the diagnosis is made, however, it is our experience that the streptomycin therapy should be reserved until it is needed or unless the patient shows lack of resistance to the disease, and it is progressive. Streptomycin therapy is not continued beyond 120 days because it has been learned that the tubercle bacillus has become resistant to the streptomycin, and its growth in vitro is no longer influenced except by high doses of streptomycin not possible to obtain in the human body. Streptomycin has become as specific for the treatment of active tuberculous lesions as quinine is for malaria. The final chapter as to the dosage and duration of streptomycin treatment has not been written.

THE PHRENIC NERVE CRUSH[2] is a procedure that has been used for a good many years and in certain sections of this country is considered to be the standard treatment in early cases of active pulmonary tuberculosis (see Fig. 1). However, we feel that the phrenic nerve crush should be reserved for those cases where the activity is regressing, following a period of bed rest or other therapy. It is our experience that a phrenic nerve crush done too early after the diagnosis of active pulmonary tuberculosis may complicate the future course of treatment if the disease is progressive in spite of bed rest and streptomycin therapy. We prefer to use the phrenic nerve crush in the late healing stages of a previously active pulmonary tuberculosis to insure a period of further rest of the lung during the rehabilitation.

PNEUMOTHORAX still remains the second best form of therapy in the treatment of active pulmonary tuberculosis and the indications and contra-indications for pneumothorax have become specific and well established (see Fig. 2). Pneumothorax is contra-indicated whenever there is x-ray evidence of a giant cavity due to tension or chronicity with thick walls, and evidence of acute exudative disease. Pneumothorax is either effective or ineffective regarding the mechanical collapse of the diseased area. By the third and fourth refill of the pneumothorax it can be deter-

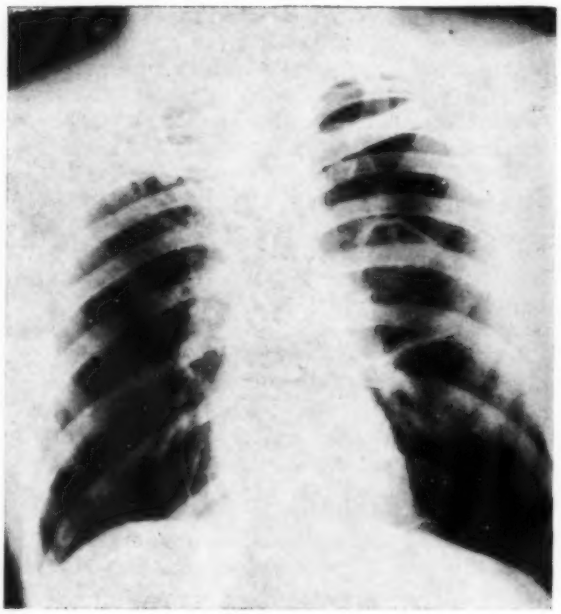

Fig. 2.
Case illustrating ineffective left pneumothorax because of long apical adhesion

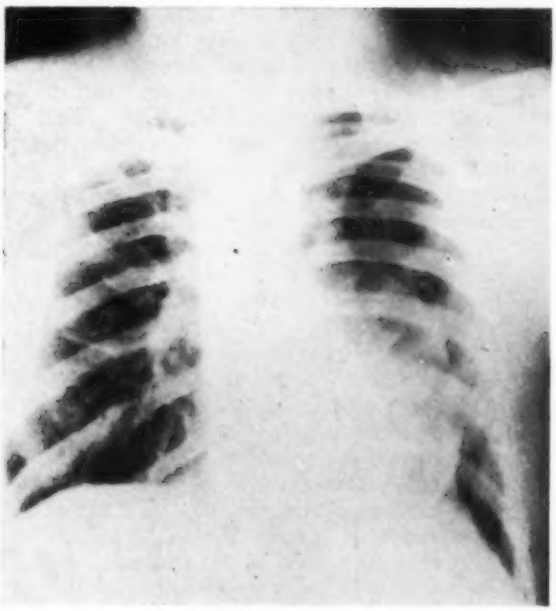

Fig. 2-A.
Same case after closed pneumonolysis showing effective left pneumothorax

mined if the collapse will be effective, if it will be ineffective because of adhesions, and if the pneumothorax can eventually be made effective by severing the adhesions by closed or open pneumonolysis. The National Tuberculosis Association has set up the criteria for an effective pneumothorax, and if an effective pneumothorax cannot be obtained it should be abandoned and the lung should be re-expanded. An ineffective pneumothorax is an invitation to all the complications of pneumothorax, such as persistent pleural effusion, empyema, bronchopleural fistula and fibro-thorax with loss of respiratory reserve. The ineffective pneumothorax can be converted by a closed pneumonolysis and occasionally open pneumonolysis into an effective pneumothorax. Streptomycin and other antibiotic and chemotherapeutic drugs have made this procedure much safer than in the past. It is our experience that pneumothorax should be started and maintained at approximately 33% collapse. If further collapse is necessary to close the cavities the complications increase and we are doubtful whether the pneumothorax should be continued. We believe a 33% effective pneumothorax is sufficient to heal the diseased lung and close any cavities that are amenable to such treatment. Bilateral pneumothorax is possible and often done although the complications are compounded and necessary medical observation of the patient is intensified.

PNEUMOPERITONEUM[3] is often used as a substitute for, or in preference to, pneumothorax and should be reserved for those cases for which an effective pneumothorax is not possible and especially in cases of bilateral active pulmonary tuberculosis in which the disease is equal in both lungs. Pneumoperitoneum rarely will succeed in the complete cure of the case, but it will often prepare the patient for further and more direct collapse measures which are necessary to bring about the complete and final healing of the disease. Pneumoperitoneum is handled in many ways in various clinics, and we prefer to maintain as high an elevation of the diaphragm with positive intra-abdominal pressures of air as is compatible with the patient's comfort. Pneumoperitoneum should always be tried in cases of active pulmonary tuberculosis involving the lower half of one or both lungs.

At this point it is evident that any or all of the above specific measures may be used in the treatment of an early active case of pulmonary tuberculosis. All of the above procedures are reversible except for the occasional phrenic nerve crush which fails to regenerate. Many clinics prefer to combine one or several of the above procedures in the treatment of active pulmonary tuberculosis cases. In the past there was much controversy by the medical profession regarding the merits of one or a combination of the above procedures. Actually the results over many years of such controversy are equivocal. The end results are about the same and, therefore, industrial physicians should not be confused or misled, but should understand that any or all of the above measures may bring about arrest or cure of the early diagnosed active pulmonary lesion. It is no longer necessary for industrial physicians to experiment with any of the accepted methods of treatment; rather, it is more important that they learn to use them more effectively and sensibly than in the past. By means of the above methods of treatment it is possible to convert an active pulmonary tuberculosis case to a quiescent and negative state as far as the sputum

and clinical status are concerned, and when such a patient has a negative sputum for tubercle bacilli as determined by all known laboratory methods, the patient is then ready for rehabilitation and it can be done best by industry. Industry should use such employees under careful medical supervision and is better capable of conducting an ambulatory pneumothorax or pneumoperitoneum program with careful medical observation of its employees under such treatment; it should conduct its own rehabilitation program allowing for some gainful employment for the employee-patient. Having instituted the control of the disease, it may be necessary to substitute a more permanent form of surgical collapse to insure a complete cure. Also, there are cases which cannot be handled by pneumothorax and, therefore, some surgical procedure must be substituted early in the course of treatment. More evidence is accumulating to show that whenever a lesion in the lung of known activity incompletely heals and is suspected of intermittent activity, the lesion should be permanently collapsed by some surgical measure that insures complete and permanent cure.

EXTRAPLEURAL PNEUMOTHORAX is a reversible surgical collapse measure (see Fig. 3) applicable in certain selected cases. Briefly, the operation consists in the subperiosteal resection of a small segment of the fourth or fifth rib posteriorly, near the rib angle, and development by blunt dissection, of the potential space over the endothoracic fascia. We have preferred to do this procedure under local anesthesia. The indications we have used can be tabulated thus:

1. Small non-fibrotic, non-acute, relatively recent apical disease, with a cavity less than 2 cm. in diameter, in patients where pneumothorax is not feasible because of pleural symphysis.

2. Cases amenable to thoracoplasty but, because of extreme youth and skeletal immaturity, the latter procedure might be interdicted.

3. Debilitated or elderly patients with lowered pulmonary reserve.

Contra-indications are large (giant) cavities, peripheral cavities deriving their blood supply from the parieties, tension cavities, disease extending below the third rib anteriorly, acute or exudative processes and tuberculous bronchitis. We have not used extrapleural pneumothorax as a preliminary to thoracoplasty;[4] nor do we consider an extrapleural pneumothorax operation as a substitute for a thoracoplasty. We have not been favorably impressed with the newer forms of plombage such as lucite balls, gelfoam, and spun glass, preferring to maintain a reversible re-expansion status by using air refills as means of maintaining the extrapleural space. Recently Smart, Samson and Childress[5] reported a five-year or more follow-up on 45 cases with 68% actively working and a 75% favorable result. Similar favorable results are reported by American and foreign authors,[6,7] with sputum conversion ranging from 30% to 75%.

Complications for this procedure are those of any operative thoracic procedure and later the complications of pneumothorax. A close medical observation is paramount in these cases until the desired pulmonary collapse has been obtained. Rigid adherence to the indications presented is of extreme importance, and laxity or broadening of the indications, generally has given poor results. The advantages of a non-deforming, single-

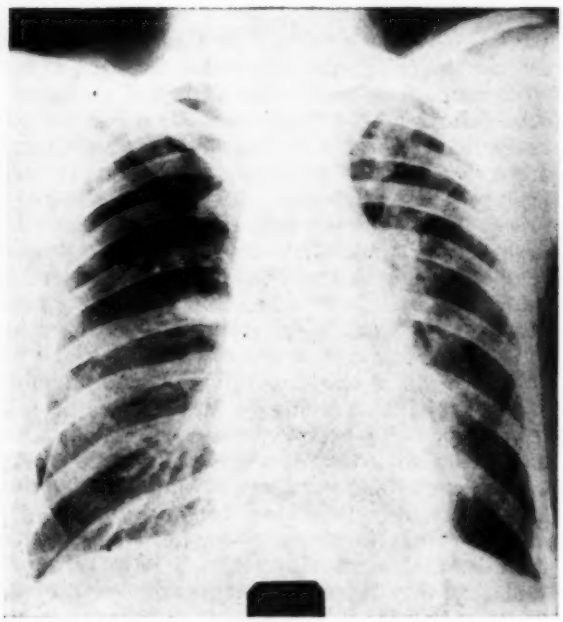

Fig. 3.
Case of right effective pneumothorax and active tuberculous lesion in left upper lung

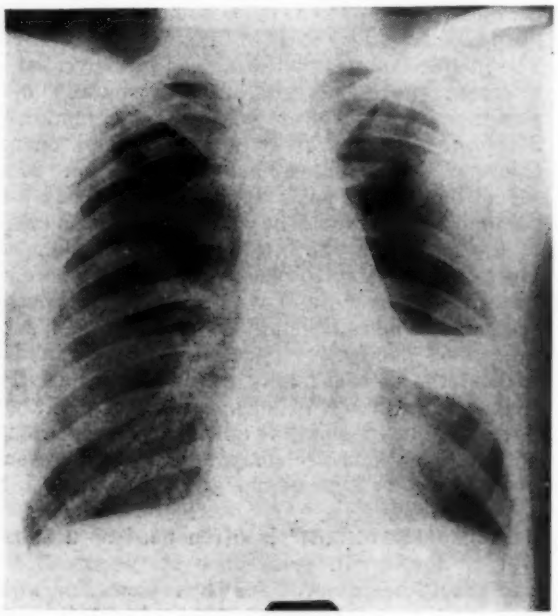

Fig. 3-A.
Same case showing effective right pneumothorax and left extrapleural pneumothorax

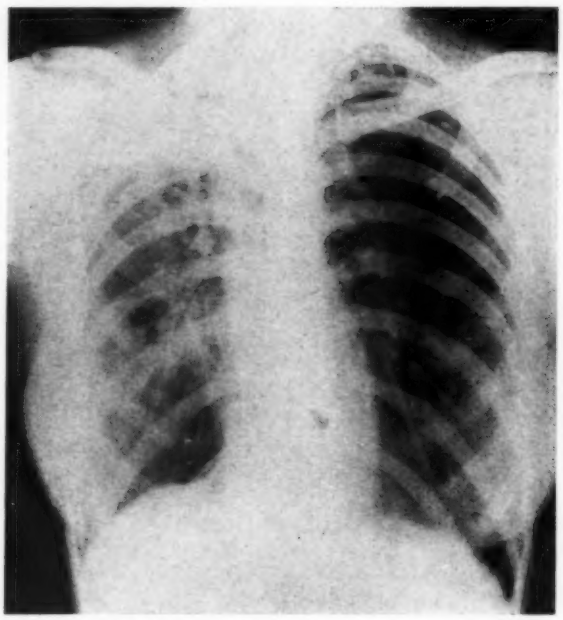

Fig. 4.
Case showing extensive chronic fibroulcerative pulmonary tuberculosis of right upper lung

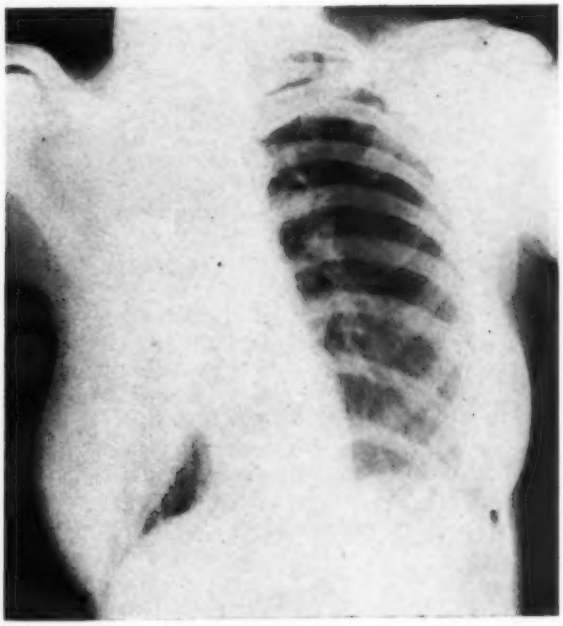

Fig. 4-A.
Same case after two stage right thoracoplasty

stage and reversible operation for pulmonary collapse are obvious.

THORACOPLASTY has become the time-honored and most highly successful of all surgical collapse measures in the treatment of pulmonary tuberculosis and has rightfully earned its place in the armamentarium (see Fig. 4). Whereas it is a far cry from the early partial costectomy of Sauerbruch to the complete thoracoplasty, as done today, the use of streptomycin has made eligible candidates for surgery who otherwise would be extreme risks or inoperable cases. We feel that the pulmonary improvement gained by the use of streptomycin, as a adjuvant to combat spread, heal an endobronchitis, control the exudative phase, lessen toxicity, should in no way be considered as definite. The patient's disease as seen in the pre-streptomycin x-ray should be the determining factor in appraisal of a given case under consideration for thoracoplasty. In a survey[8] of 308 cases followed for five years, 50.9% were discharged as arrested and an additional 12% as improved. Our own figures for cases operated in 1948 show an immediate conversion of sputum in about 75% of cases. With such procedures as a revision thoracoplasty, cavernostomy, and resection, this figure will undoubtedly rise and more and more "arrested" cases result through surgery. As in extrapleural operations, this procedure can be performed under local anesthesia for all required stages. We have seen only a negligible incidence of spread and atelectasis under local anesthesia and patients are usually ambulant by the third day, comfortable and afebrile. It is felt that this excellent conversion rate does not justify superimposing an apicolysis on a thoracoplasty, thereby compounding the morbidity; and this step has been abandoned by most clinics. The preferential thoracoplasty, as now performed, is done in two or three stages, 14 days apart with complete removal (disarticulation) of the upper three and one-half ribs, followed by a second or third stage wherein three and one-half or four and one-half ribs, in graded segments, are excised. Thus, a seven or eight rib upper thoracoplasty is done and, to preclude formation of a paravertebral gutter, the transverse processes are removed flush with their respective vertebral laminae. The classical indications for thoracoplasty are well-known and can be stated briefly as predominantly unilateral, fibrocaseous disease in the upper lobe in patients with good respiratory capacity. Deviations from this principle are many and include the use of thoracoplasty with Monaldi drainage or covernostomy for the treatment of giant cavities. We have used anterior costectomy as a preliminary procedure in older, debilitated individuals in preparation for thoracoplasty. This has given us an indication of the patient's respiratory reserve and ability to withstand the procedure. Where an otherwise favorable candidate for thoracoplasty shows evidence of an exudative component or toxicity, the regimen of a 30-day course of dihydrostreptomycin is followed pre-operatively, but only in very limited cases has this drug been used as prophylaxis for spreads. We prefer to reserve its use until actual spread occurs because of its high specificity for this latter complication. So convincing have been the late results of thoracoplasty that it is now frequently done as a "primary procedure," wherein selected cases are subjected to thoracoplasty without recourse to preliminary pneumothorax or other measures.

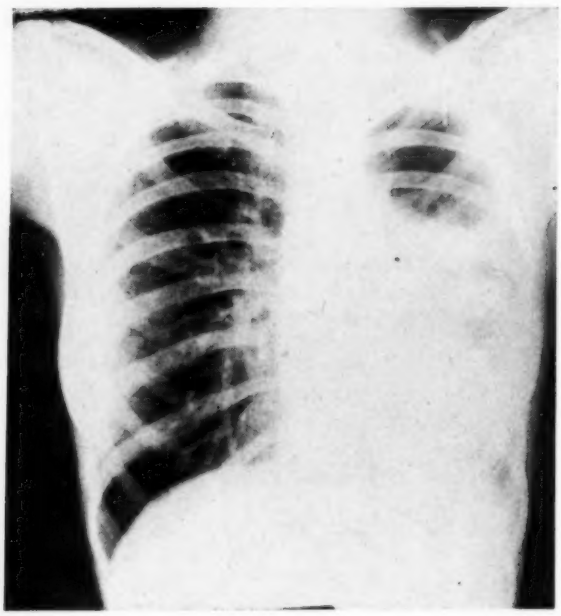

Fig. 5.
Case showing giant cavity in left upper lung with extensive disease in left lower lung

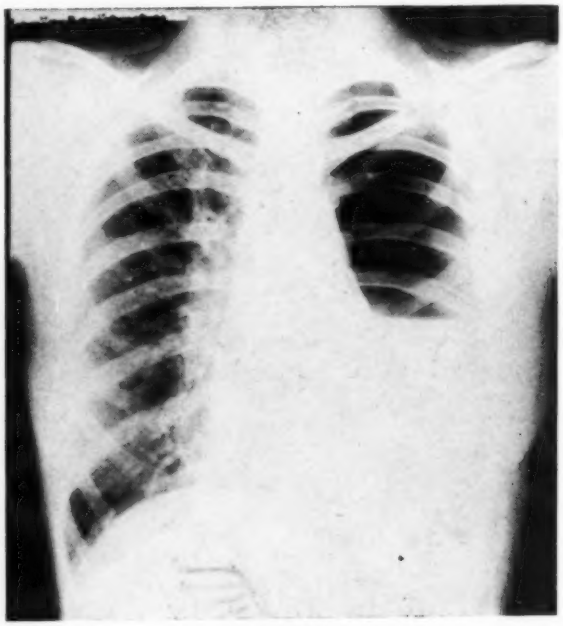

Fig. 5-A.
Same case after left pneumonectomy

PULMONARY RESECTION represents the most recent advance in surgical treatment of tuberculosis and a crystallization of ideas has evolved from contributions of Sweet,[10] Overholt,[11] Bailey, Maier and many others (see Fig. 5). Although this procedure is still undergoing testing by clinical experience, certain concrete indications can be given:

1. Thoracoplasty failure with a residual upper lobe cavitation in which non-extirpative procedures are not applicable. At least nine months to one year should elapse post-thoracoplasty before "failure" is established.

2. Cases with extensive upper and lower lobe involvement, with or without bronchostenosis.

3. Cavernous disease in the apical or basal segment of the lower lobe or in the middle lobe uncontrollable by other collapse measures.

Reporting on 200 consecutive pulmonary resections, Overholt has shown that with attention to anesthesia, position, careful technique, and judicious use of thoracoplasty to prevent overdistention of the remaining lung, good results are obtainable. Blades has recently shown that under streptomycin the mortality for resections over a long period has dropped below 15%. Careful postoperative management and skilled clinical assessment of the patients with regard to cardiac and respiratory reserve is absolutely necessary in excisional surgery for tuberculosis. Many clinics are gradually reserving resection solely for those obvious thoracoplasty failures wherein cavernostomy and revision have likewise been tried and failed. Of more restricted application in tuberculosis has been the use of segmental pulmonary resection to conserve portions of the lobes. While this end is desirable, it is often obtained at a high cost, namely, complication of effusion, empyema and bronchial fistula, and hence its limitations are obvious. In any event, it is felt that a critique of extirpative therapy will not be drawn up until several years have elapsed and long-range follow-up studies made. We are not substituting resection for any of the above described forms of therapy and although our total number of resection cases is small, the results have been gratifying.

Summary

INDUSTRIAL physicians must assume their responsibility for the diagnosis, management and subsequent rehabilitation of employees found to have active pulmonary tuberculosis.

2. The importance of immediate classification of employees with x-ray evidence of pulmonary lesions, into tuberculosis active and tuberculosis activity-undetermined groups, is stressed for further study and diagnosis.

3. The various modalities for the present day treatment of active pulmonary tuberculosis have been discussed.

(55 E. Washington St., Chicago 2.)

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The Health Committee

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ONE OF the most effective measures that may be utilized for the promotion of health education among industrial employees and their families is the organization of an active Health Committee, the objectives of which are tailored to the needs of the health problems evidenced by the type and extent of the industry.

In the large industrial establishment medical and nursing personnel may encourage the cooperative support of the employees through this medium and thus be enabled to put across the need for ways of living that will help to keep the industrial worker and his family in a sound state of body and mind.

In the plant of smaller size, where there is part-time medical and nursing service or only a first aid attendant, the value of good industrial sanitation may be taught by allocating responsibilities, such as plant inspections pertaining to hygiene and sanitation and health promotional campaign duties, to members of the Committee.

Management Approval

THE success of the endeavors of the Health Committee will depend largely upon management endorsement. While the health policies of the individual plant may already be established, ultimate accomplishments will depend largely upon the degree of interest that management shows in the activities of the Committee, which will reflect generally in whole-hearted cooperation of both management and employees.

Approval of the Committee's activities should therefore be signified by an announcement, over management signature, outlining the aims and purposes of the Health Committee.

Organization

IT IS recommended that the industrial physician and nurse-counselor act as chairman and co-chairman of the Committee and that membership be comprised of department heads, foremen of departments, and one employee selected alternately from each department to serve on the Committee for a term of one month. This should include the employee's attendance at two meetings. At the first meeting duties would be assigned to him; at the second meeting a formal report of accomplishments would be made by the employee, and responsibilities turned over to the new member for completion.

It would be the responsibility of the chairman to direct all Committee procedures and report to management through conference and written report. It is suggested that the chairman appoint a treasurer to handle the budget and a secretary to record proceedings. Ways and Means and Publicity Sub-Committees may also be formed as activities progress and the need for them is indicated.

After these appointments have been made, it is recommended that a letter be sent to each appointee at his home, requesting that he accept the appointment, and stressing management's approval of the aims and purposes of the Committee. This will enable members to evaluate more properly the importance of attendance at Committee meetings and the execution of the duties assigned to them by the chairman.

Functions

IT IS recommended that regular plant tours be made by members of the Committee for the purpose of observing conditions regarding health and sanitation. Observations will suggest subjects for which regular health promotional campaigns may be planned and promoted, and results reviewed and evaluated.

Employees may be appointed to assist in the distribution of health literature and posters, the maintenance of visual aid stations and Committee rooms, and in the arrangements for obtaining "props" and materials to be used, transportation of visiting health educators, etc.

TOPICS FOR CAMPAIGN PROMOTION:

- Cold prevention.
- Nutrition.
- Plant and home sanitation.
- Communicable disease control.
- Immunization.
- Fatigue.
- Recreation.
- Seasonal hazards.
- First-aid.
- Home nursing.
- Personal hygiene.
- Protective clothing.
- Special health problems (male and female).

METHODS OF PROMOTION:

Showing of health educational films.

Demonstrations.

Use of posters on bulletin boards in cafeterias, rest rooms, lavatories.

Inserts in company employee publication.

Announcements over plant address system.

Payroll inserts.

Talks (general, specific groups, industrial, community).

Radio and television.

Utilization of approved community health and social agencies and specialists.

Cooperation with health and social campaigns in the community.

Participation in the activities of civic health and social committees.

Inserts in newspapers and safety publications.

All promotional materials used should be medically approved.

Advantages

THE following advantages may be anticipated as a result of the Health Committee's activities:

1. Opportunities for discussions on the relation of health to safety, production, and morale.
2. Development of an awareness in the employees of the interest that management feels toward their health and welfare. This should reflect in improved labor relations and increased efficiency.
3. Opportunity for the study and correction of real health problems, and a chance for the presentation of new ideas by the management, the medical department, and the representatives of the employees.
4. Establishment of regular, progressive effort in health promotion.
5. Maintenance and analysis of records which will show achievements and "blocks" which may require attention.
6. Presentation of planned, tailored programs and follow-through accomplishments.
7. Assimilation and acceptance of the fundamental principles of good health and the needs of specific health conditions.
8. Revealing of contributory, causative factors and data on accidents and illnesses by the Safety Committee and Health Committee, working in conjunction. These, when broken down and efforts coordinated, allow for more specific information for which corrective steps may be introduced.
9. Cooperation and interest of employees who, as rotating members of the Committee become ambassadors of good health and safety among their fellow workers, their families, and their communities.

(175 Berkeley St., Boston 17.)

Pensions Not the Answer

WITH the number of people aged 60 or more increasing at a rate of five times the population increase, retirement and pensions are serious problems. There are about 11 million people 65 years or older in the U. S. today. As Dr. Edward J. Stieglitz said in a recent issue of *Industrial Hygiene*, ". . . Industry must either find employment for older men and women appropriate to their capacities, or carry a major share of the rapidly growing burden of supporting them in tragically wasteful idleness, either through private pension funds, or worse, through crippling taxation." Application of a blanket retirement age appears to be not only against the best interests of the worker, but also a wasteful practice for industry. In many cases, management is throwing out skills and know-how that have taken years to develop. In a few isolated cases, companies have rehired as consultants executives who were forced by inflexible rules to retire. That solution has the advantage of making way for younger men, while retaining the knowledge and skill of older men. Applying mainly to executives, this doesn't help to solve the problem of the worker. One idea, put into practice by a company in the Middle West, was to establish a special section, at special pay (above the pension rate), in its maintenance department for older men still able to work, but not to carry a full load. The company protected itself against possible abuses of the plan by reserving the right in the union contract to select workers who would be kept at work on this basis, and the right to terminate the arrangement. As another solution, older workers might be assigned to the training of younger employees through a formal training set-up. That system worked well during the war. Assuming that such a system can be established, the big question is, "Can the worker do the job?" Older workers tend to have less strength, slower reaction time, and slower recovery. On the other hand, as Stieglitz points out, they tend to be more loyal, have better attendance records, better judgment, and greater skill. Their safety record is better than that of younger men. They know their limitations, and they're extra careful.

—*Modern Industry*, October 15, 1949.

The Management of Abdominal Injuries

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THE many advances in operative surgery during the past decade have made themselves felt in the management of abdominal injuries. They have changed the prognosis, have made the operative therapy less hazardous, and have simplified many of the techniques. Yet, confronted with the individual patient who has just been injured, there are still many problems which make decisions difficult and accurate evaluation imperative.

It might be thought that the triumvirate of the ready availability of whole blood, antibiotic and chemotherapeutic methods, and the hemostatic agents would make operative intervention on the acutely injured patient so safe that the policy of "let's look and see" might have supplanted the necessity of evaluating the injury and recognizing the organs which have been traumatized. This is just as untrue as it was before the advent of the triumvirate. Misplaced surgery may still be fatal.

The abdominal cavity contains, in the main two types of organs, the solid viscera, and the hollow organs. To the former belong the liver, spleen and pancreas. The hollow viscera include the gastro-intestinal tract, the ureter and bladder, and the blood vessels. One mixed organ is represented in the kidney. The violence applied to these organs may be perforating, penetrating, non-penetrating and even indirect. A knowledge of the character of the violence matched against a knowledge of the manifestations of the trauma of various of the organs may direct the surgeon to the proper therapeutic sequence. Yet the symptomatology of the injuries of the abdomen is manifested by so few signs—usually those only of shock, hemorrhage and peritonitis—that the interpretation of their minor variations will assume much importance.

In the perforating injuries, fortunately usually single in peacetime civil practice, one must assume that the offending missile has traveled in a straight line. Thus a knowledge of the contours of the peritoneal cavity and the topographic anatomy of its contained viscera becomes important. This may vary with the position of the patient at the time of the injury, and may vary with the phase of respiration at the time the missile traversed the body. In the penetrating wounds, in which the missile is retained, it may be located by the x-ray and again its course roughly estimated as a direct line between the site of the missile and the wound of entrance. The probing of an abdominal wound to find its course through the abdominal parieties is a practice which should be condemned. While it is probably harmless in most instances, it is so fallible that it should be supplanted by an open operation.

Presented at the Sixty-First Annual Meeting of the AMERICAN ASSOCIATION OF RAILWAY SURGEONS, Chicago, July 1, 1949.

In the non-penetrating and the indirect violence cases, the diagnosis of abdominal injury must be made by inference. In these one must rely on a careful evaluation of the history and clinical signs. There is usually but one organ injured, so the discussion will be carried out under individual headings.

Blood Vessel Injuries

ONE of the frequent abdominal injuries, often precipitated by indirect violence is the rupture of the deep epigastric vessel in the rectus muscle. It is too often missed and the cause of severe complaints with few findings. Manifested by pain and tenderness in one of the segments of the rectus sheath, it may often be interpreted as appendicitis, or even as cholecystitis, as it was in one of our recent cases. It is almost invariably self limiting in non-compounded injuries, and is easily treated by conservative means.

More important are the injuries to the major abdominal blood vessels. These are nearly always the result of penetrating or perforating injuries. If the vessel can bleed into the peritoneal cavity, the evidences of severe hemorrhage are present. So akin are the symptoms and signs of hemorrhage to those of traumatic shock, that only early recognition will save the patient's life. The literature abounds with dogmatic statements of diagnostic differences between shock and hemorrhage giving the degrees of hemoconcentration or dilution as the telltale signs. Yet the clinician finds that there are so many exceptions to the expected results that he must rely upon his clinical judgment and experience for his guide.

In perforating and penetrating wounds with evidences suggesting severe hemorrhage, massive blood transfusions should be followed by operative intervention. The exact site of the hemorrhage may not be evident when the abdomen is opened. However, in such patients, the hand introduced into the abdomen may feel a stream, and it can be followed and the actual bleeding site tamponaded by the finger. When the hemorrhage has been staunched, the area can be exposed and the vascular rent controlled by suture, lateral ligature, or complete ligature of the vessel.

Injuries of the Liver

THE liver, because of its tremendous size, is frequently injured by both open and closed types of trauma. In both types, hemorrhage is the main sign of injury. In the compound wounds, abdomino-thoracic injury of the liver is frequent, as this organ protrudes far into the thoracic cavity. A knowledge of the topographic anatomy of the liver foretells most of the penetrating and perforating wounds. When the liver is injured, the diaphragm is usually splinted in contraction, the chest wall contracts, and the abdominal

muscles also contract. Thus a tamponading effect is secured. Unless the shattering effect on the liver is severe, most of the lower velocity missiles and smaller caliber missiles will produce a hemorrhage which is self limiting. Biliary leakage in such instances is not of great importance.

In the wounds of modern warfare, however, where the missiles are often large and travel at tremendous velocity, the shattering effect is great and both hemorrhage and biliary leakage may not be self limiting. Hematomas and biliary collections may become a factor of importance in these cases. Even the broncho-biliary type of fistula reported by Guy and Olek may result.

The closed injuries of the liver may come from a lateral or antero-posterior compression of this relatively inelastic organ. Most of such injuries are followed by more or less linear lacerations of the organ. Hemorrhage is moderate in amount, and usually is self limited.

Thus one would conclude that injuries of the liver are, in most instances, relatively innocuous. This, however, is not borne out by statistical reviews. A relatively large number of patients with liver injuries die at the site of the accident, before they are reached by medical aid. A review of these statistics, largely from coroners' series, reveals that many of these patients suffered massive injury often with concomitant wounds. Thus it is suggested that minor liver wounds be treated conservatively and the more major ones be treated by open operation. The differentiation between the minor and the major ones is a purely clinical one, a reflection of the severity of the shock and of the hemorrhage. Using this as a guide, I have found a personal tendency to operate upon more patients than it appears from the operative findings was actually necessary. This is probably prompted by the fear of concomitant injuries, and an error in the right direction.

The control of hemorrhage from the liver was for several decades the subject of numerous publications and several ingenious methods of liver suture and packing have been reported. We now know that the use of mattress sutures and the addition of the various absorbable hemostatic agents have practically removed this hazard.

The injuries of the extrahepatic biliary system, in contrast to most liver wounds is manifested by an early appearance of jaundice and often bradycardia.

Injuries of the Spleen

THE spleen is a small organ, well protected from the average traumas by the rib cage, but, like the liver, has limited mobility and is pulpy and friable. In perforating and penetrating wounds, its injury is almost invariably associated with a combined abdomino-thoracic injury or with injuries of the hollow viscera with which it is in intimate relation. Therefore operative intervention will be performed and its findings will be merely an incident to the operation. It is in the closed injuries of the abdomen that the spleen assumes its real importance.

The fractures of the spleen have been described to occur by varying mechanisms, both bending and compressive in type. Some such traumas may be of just sufficient violence to produce a central or subcapsular contusion. When this occurs, the actual intraperitoneal rupture may be delayed for days or even weeks. In my experience, this has been especially true in children and young adults. As most splenic ruptures occur in children and young adults, delayed ruptures are of moderate frequency, and should be suspected when a person suddenly displays the symptoms of shock days or weeks after an injury which may be insignificant or minor.

In the diagnosis of splenic injuries the history mechanism of the trauma is most valuable. Most of the patients show evidences of injury to the upper left abdomen or lower left chest. In a fair number, there is a fracture of the ninth to eleventh ribs of the left side. As the only other gross symptom is one of intraperitoneal hemorrhage the site of the trauma should be ascertained. The hemorrhage usually is apparent more in the clinical picture than in the laboratory findings. This anemia is often not as profound as one would suspect, and one may therefore be less surgically energetic than the situation demands. Corroborative findings of an increase in the splenic dullness or a roentgen film revealing an increase in the normal splenic opacity may be of great help. The peritoneal reaction with splinting, tenderness and the rebound phenomenon is usually quite marked. Bowel sounds may, however, be audible with diminished or almost normal frequency.

In my opinion, a suspicion of a fractured spleen is sufficient to warrant operative intervention. The almost universal availability of bank blood has rendered the use of autotransfusion unnecessary. When the abdomen is opened, the spleen should be brought into the field by traction toward the midline. This will put the lieno-renal ligament on a stretch, and this structure may easily be divided. This permits complete mobility of the organ and accurate definition of the vascular structures of the splenic hilus. These may then be controlled with ease. Even in the abdomino-thoracic wounds, where splenectomy is to be performed through the chest, this mobilization makes the operation a much easier one.

Injuries of the Pancreas

THE lobulations of the pancreas and its protected position protect it from most of the traumas of the abdomen. In the compound injuries, the hemorrhage is usually not severe from the pancreas itself, and the ferments do not appear to be liberated in devastating amounts. Almost all of these injuries are associated with wounds of the stomach or colon, and will be recognized at the operation. On the other hand, blunt traumas to the epigastrium may injure the pancreas. Surprisingly, the trauma is often of only mild severity. When the trauma is severe enough to cause hemorrhage, it usually is into the lesser omental

bursa. A gross deformity is observed on inspection of the abdomen. In my experience, it is not a very painful process, and may be even unrecognized by the patient until he notices a mass in the epigastrium. If there are no evidences of injury to the hollow viscera, a roentgen study of the gastro-intestinal tract will reveal the gross deformity of the stomach and the colon as they are displaced by the encapsulated effusion.

The effusion may point in the gastro-hepatic ligament, the gastro-colic ligament, or through the transverse meso-colon. Rupture into the general peritoneal cavity of the mass may occur and I have reported six such cases. These are, however, usually associated with a second traumatic episode.

It is my belief that the trauma which produces the so-called pancreatic pseudocyst is usually a minor one which initiates a subacute pancreatitis. The effusion is, therefore, as much a product of the inflammatory reactions as of the original hemorrhage. The diagnosis should not be difficult. In the acute compound injuries, suture of the organ is the method of choice, after careful debridement of all of the traumatized areas. In one case I have resected the tail of the pancreas but was also obliged to perform a splenectomy because of injury to the splenic artery during the dissection.

The management of pseudocysts is beyond the scope of this discussion; suffice it to say, that I feel they are best drained into the jejunum, using an isolated 'Y' loop secured by the technique of Roux.

Injuries to the Kidney

THE injuries to the kidney call attention to the so-called "retroperitoneal syndrome." This syndrome is so commonly associated with renal trauma that one must consider the two under one heading. Together they constitute one of the most difficult problems in abdominal traumatology. They are treacherous from the therapeutic standpoint, and most difficult of diagnostic analysis.

Many patients with kidney rupture will have evidences of fullness in the loin and will reveal their tenderness in that area, but will not be in severe shock or distress. Others will be in profound shock, with a rigid quiet abdomen, groaning with severe pain or grunting with a labored type of respiration. The latter are displaying what is termed the retroperitoneal syndrome. The diagnosis is of utmost importance, for the findings suggest an intraperitoneal visceral injury. Abdominal exploration, on the other hand, is beset by an appalling mortality. Conservative therapy gives splendid results.

The diagnosis of the renal injury is usually not difficult. There usually has been violence to the loin, and there may be swelling in that area. Gross hematuria is present in well over 75%, and microscopic blood is seen in 95%. The diagnosis may be aided by the finding of a gray opacity in the renal area and a disappearance of the psoas shadow in the scout film, and confirmed by the intravenous or retrograde pyelographic study.

In the patients displaying the retroperitoneal syndrome, however, it is not enough to prove that a renal injury is present. One must also assure one's self that there is no intraperitoneal visceral injury demanding laparotomy. Almost all of the classical signs of intraperitoneal irritation will be present: The abdomen is rigid to the palpating hand, there is rebound tenderness, and there is either a diminution or complete absence of peristaltic activity. It will be noted, however, by careful observation, that the *abdominal wall moves with respiration.* Gastric aspiration will not be blood tinged. Rectal examination is usually unproductive of pain or tenderness. And five or even 10 minute auscultation will usually reveal occasional sounds of activity. These signs are not pathognomonic, but they are helpful. In addition, there is usually no marked anemia, and there may be considerable hemoconcentration.

In the kidney injuries caused by blunt violence, there is rarely any indication for emergency operative intervention. Early operation will probably be the cause of more nephrectomies than are necessary. Penetrating wounds of the kidney *alone* are also not requiring of immediate operation. The perinephritic abscesses which may follow will require drainage, and in rare instances, hemorrhage may demand operation. But these are rare.

The injuries of the ureter were seen with surprising frequency in the last war. They were almost invariably associated with injuries to the colon, and in many cases resulted in intraperitoneal extravasations of urine. These were associated with the most surprising degrees of azotemia, presumably from the absorption of the urinary salts. Almost all were treated by cutaneous ureterostomy or by nephrostomy. In one instance in our hospital we were fortunate enough to pass a catheter across the defect and secure a primary result. The Germans made claim to several primary ureteral anastamoses. In one case Dr. Justin Codonnier was able to anastamose the two ureters across the retroperitoneum. When a ureteral injury is suspected in the acute case, one may secure some information of its position by the intravenous administration of indigo-carmine, which will emanate from the cut end.

Injuries to the Gastro-Intestinal Tract

BOTH penetrating and non-penetrating injuries are causative of wounds of the gastro-intestinal tract. Here hemorrhage no longer dominates the pathological process, although it may still be a prominent feature. Infection and peritonitis are the pathognomonic signs. The degree of the peritoneal reaction is dependent upon the part of the tract injured, as well as the time elapsed between injury and examination. The gastric and duodenal contents being highly irritant to the peritoneal coat will result in a most rigid and tender abdomen, identical with that of the perforated peptic ulcer. On the other hand the jeju-

num is usually an empty bowel and signs may be considerably retarded in their appearance. The contents of the right colon are quite irritating while the solid feces of the sigmoid and rectum are not irritating until considerable reaction has ensued. Whenever a missile has entered the peritoneal cavity in an area where bowel may be, operative intervention is indicated. In the non-penetrating wounds, exploration is indicated whenever there is a suspicion of the rupture of a hollow viscus.

The radiographic examination, which is so helpful in the diagnosis of the injuries to the solid viscera, is of surprisingly little help in the intestinal wounds. Free air is rarely seen unless either the stomach or the colon has been lacerated. Occasionally one may be able to recognize the presence of fluid, and the properitoneal fat line may be absent. And in the cases where peritonitis has supervened one will find distension of both the large and small intestine. But this is too late a phenomenon. In most instances it is better to "look and see rather than to wait and see."

At the time of operation, the decision whether to suture or to resect will require fine judgment. In colonic injuries, the safest procedure is to exteriorize injured segments. When resection is done, only the most experienced surgeons should use the end-to-end anastamosis. Bowel obstructions and subsequent perforations were frequently observed in the last war when the end-to-end technique was employed. But the most important factor in the exploration for bowel injury, is that the exploration be a complete one. It is useless to carefully suture openings in the bowel if one is missed. Drainage is to be condemned in most instances. It is usually of no avail, and may greatly complicate the convalescence.

Conclusions

SOME of the injuries to individual viscera have been discussed. It must be remembered that many of these are observed in combination, and that the picture is thus altered. This makes the evaluation of the individual case most difficult. But it is only with a knowledge of the possibilities —and all of the possibilities—that one is competent to review the individual case history. The laboratory is sometimes of help. The x-ray interpretation may be confirmatory. But, just as in all of medicine and surgery, the accurate history, and the painstaking physical examinations are the mainstays of the diagnosis. And in the therapy an accurate diagnosis is imperative. The decision of *whether* an operative intervention is necessary, and at what *time* it should be performed is all important. The differentiation between secondary shock and hemorrhage, between intra or retroperitoneal hemorrhage, and between the injury of the solid and hollow viscera will reduce the mortality of the operation to an absolute minimum. Then, and only then, will the triumvirate of antibiotics, blood and hemostatics be employed to their best advantage.

(The Guthrie Clinic.)

The Quest for Causes

ALONG with the new course in ecology given for the first time this fall, the Harvard School of Public Health will confer the newly established degree of Master of Industrial Health. Besides the sciences already listed, courses for the candidates will cover basic problems in industrial hygiene and organization, and include environmental physiology, sanitation and the control of industrial air hazards. Something that cannot be taught in courses is also offered to the future graduate when he departs with his degree. This is the opportunity to contribute significantly to the advance of medicine. Most of the great industries have group insurance plans, and the mortality and morbidity data hidden in such files may well be the source of vital statistics pointing to the causes of some of the most serious and crippling diseases. Assuredly, these masters of industrial health will find divisions of their industries in which accidents are a problem, where causes can be determined and effective control measures introduced. Perhaps they will find pulmonary cancers a problem like that among chromate workers. But what about arthritis, peptic ulcer, coronary thrombosis, hypertension and vascular and mental diseases whose causes are at present largely unknown? It may well be that in particular departments of an industry death rates and morbidity rates for some one or other of such diseases—arthritis, for example—may be so excessive as to be significant of the factors acting to produce it. There is the opportunity for the "master" of industrial hygiene to contribute to the ever-growing knowledge of epidemiology and ecology and preventive medicine. The biochemist has recently developed compound E as a brilliant contribution to the treatment of arthritis. It remains for some future scientist, chemist, clinician or specialist, perhaps with a degree of Master of Industrial Health after his name, to elucidate its pathogenesis. The quest continues for causes.

—From an Editorial entitled "Masters of Public Health," in *New England J. Med.*, October 20, 1947.

The Prophylaxis and Treatment of the Common Cold with Neohetramine (Thonzylamine Hydrochloride)

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THE observation that a histamine-like substance could be extracted from the nasal secretions of patients afflicted with the common cold was made by Troescher-Elam, Ancona and Kerr,[1] and it was believed by these investigators that some phase of the common cold might be on an allergic basis. If this were the case, an increase in the eosinophile count of the nasal secretions might occur. A follow-up of this theoretical assumption culminated in a project on the prevention and treatment of the common cold by the use of an antihistaminic drug.

In view of the subjective nature of many of the symptoms of the common cold it was deemed necessary to personally examine each patient in the series. For this reason the experiment was conducted in institutions where all subjects could be called for examination at any time. A large state penitentiary, a convent, and a seminary, with a total population of over 3000 were selected. The subjects ranged in age from 18 through 70 years and included members of both sexes of all nationalities and races.

In the examination of 311 subjects afflicted with the common cold, it was observed that the nasal mucosa exhibited three distinct phases of pathological change, as follows: First phase: Extreme edema and pallor of the nasal mucosa, which exuded a watery mucoid discharge but revealed no breakdown of the cellular structure. This phase lasted approximately 24 hours. Second phase: Marked injection and redness of the nasal mucosa with diminution of edema, a mucoid discharge and no apparent breakdown of the cellular structure. This phase, also, lasted approximately 24 hours. Third phase: A complete breakdown of the cellular structure of the nasal mucosa plus an extremely purulent discharge. This phase lasted from four to seven days.

Nasal smears were taken on all patients (treatment series) in all phases of the disease and the cellular nature of the secretion was observed. Personal histories were taken on all cases and any subject exhibiting a personal or strong family history of allergy was eliminated from the study. Of 311 cases observed, 96 were classified in the first phase, 160 in the second phase and 55 in the third phase. Of 96 in the first phase, 41 (42.6%) revealed an eosinophile count of 2% to 5% in their nasal secretions. Of 160 in the second phase, only 12 (7.4%) showed an eosinophile count of 1% to 4%. Of 55 in the third phase, none exhibited any eosinophiles. Whereas eosinophiles occasionally may be present in the nasal smear of normal individuals in a concentration of more than 1%, the demonstration of a higher per cent of eosinophiles in 42% of those individuals in the first phase of a cold lends credence to the assumption of Troescher-Elam, et al that this phase exhibits manifestations of an allergic state.

Previous articles[2,3] have already shown the efficacy of certain antihistaminics in the treatment of the common cold. The present study assesses the value of prophylaxis, if continued over a prologed period throughout the cold season. At the same time it was desirable to confirm the use of the antihistaminics in the treatment of the common cold, investigate their toxicity and establish the dosage required. Having the disposal of more than 3000 individuals, working under varied environmental conditions, it was felt that the conditions would be ideal for a study of this type. A review of the literature revealed that Benadryl®, Pyribenzamine®, Neohetramine®, Neoantergan®, Thephorin®, Trimeton®, and Antistine® have been reported as effective in controlling a wide variety of allergic conditions. Recent papers by Brewster[2] and Murray[3] report encouraging results in treating the common cold with various antihistaminics. However, both authors reported the occurrence of side reactions, notably drowsiness, in sufficient degree to necessitate warning their patients. Brewster prescribed dextro-amphetamine to counteract the soporific effects of the several antihistaminics he employed, and instructed his patients not to drive a car while under treatment. Since many of the patients in Murray's series worked with fast-moving machinery, all were instructed to report to the infirmary at the first sign of drowsiness for a cup of black coffee. As the difference in merits of various antihistaminics seems to be largely one of toxicity, Neohetramine* was selected for this study since a number of comparative studies have shown it to be consistently the least toxic of these agents.[4-10]

Prophylactic Study

METHODS USED: Three hundred individuals were given Neohetramine† in varying dosages: 100 patients received 50 mg. *once* a day; 100, 50 mg. *twice* a day; 100, 50 mg. *three* times a day. As controls 300 individuals were given a placebo in the same amounts. It is significant that there was intermingling of all subjects, allowing equal chance of exposure to the cold virus by prophylaxis and control cases. In fact, individuals were selected so that Neohetramine and placebo groups occupied the same rooms in the dormitories.

The placebo and Neohetramine tablets were indistinguishable in appearance. The project ex-

*N, N dimethyl-N'p-methoxybenzyl-N' (2-pyrimidyl) ethylenediamine monohydrochloride (Thonzylamine hydrochloride).

†Supplied through the courtesy of Wyeth Incorporated and Nepera Chemical Co., Inc.

tended from the latter part of October, 1948, to the middle of April, 1949. Urinalysis, blood count, blood chemistry, blood pressure, and bleeding and clotting times were performed at regular intervals on patients receiving Neohetramine. Results of these tests showed no change, other than normal variations, throughout the entire period of the project.

TOXICITY: Of the 100 patients receiving 50 mg. three times a day, nine complained of dryness of the throat and sneezing. However, medication was discontinued for 24 hours with total disappearance of symptoms. The dosage on these individuals was then reduced to 100 mg. daily without recurrence of symptoms. Two patients complained of nausea to a mild degree and this was eliminated by decreasing the dosage to 100 mg. daily.

The remaining 200 patients, receiving 100 mg. or 50 mg. of Neohetramine daily, experienced no toxic reactions whatsoever. Throughout the entire course of Neohetramine prophylaxis there were no manifestations of toxicity such as sleepiness, dizziness, epigastric distress, urinary discomfort or incoordination.

RESULTS: Of the 100 patients receiving Neohetramine prophylactically in the dosage of 50 mg. three times a day for 180 days, 92 were without any symptoms of the common cold. Six complained on different occasions of symptoms resembling the first phase of the common cold with stuffiness of the nose, sneezing, mucoid nasal discharge lasting approximately 24 to 48 hours and then disappearing. There was no involvement of sinuses, headache, cough, temperature or work loss. Two revealed symptoms of the second and third phases of the disease.

Of the 100 patients receiving a dosage of 50 mg. twice a day, the results were approximately the same. Ninety were without any symptoms of a cold, while seven developed symptoms resembling the initial stage with stuffiness of the nose, sneezing and mucoid discharge lasting 24 to 48 hours and then disappearing. Only three developed any symptoms involving the third phase.

Of the 100 patients receiving 50 mg. daily, 83 were without any symptoms of a cold, five complained of first phase symptoms, and 12 developed well-established colds.

The type of cold manifested by those individuals taking Neohetramine prophylactically lacked the disturbing symptoms of cough, malaise, nasal obstruction and elevation of temperature. The outstanding benefit in these cases appeared to be the absence of secondary invasion of the nasal mucous membrane.

In the control group, the following results were obtained: of the 300 patients receiving the placebo, 241 contracted one or more colds—some contracted as many as five or six colds; 62 (20.7%) entered the second phase, and 179 (59.5%) developed the complete phases of the common cold with malaise, purulent discharge, cough, etc. Practically all eventually required extensive therapy. Eleven developed complications such as pneumonitis, bronchitis, sinusitis, etc. It was also noted that the number of infirmary days involved those patients taking the placebos.

TABLE I.
PROPHYLACTIC USE OF NEOHETRAMINE

Number of Patients	Dosage of Neohetramine	Number free of Cold Symptoms	Cold Symptoms 1st Phase	2nd Phase	3rd Phase
100	50 mg. t.i.d.	92	6	1	1
100	50 mg. b.i.d.	90	7	0	3
100	50 mg. daily	83	5	0	12
300	Control group: No medication	59 (19.7%)	0	62 (20.7%)	179 (59.5%)

Treatment

THE main project was concerned with the treatment of the common cold by the use of Neohetramine. This study involved three groups, the first group receiving 50 mg. Neohetramine three times a day for three days; the second group, a placebo; and the third group, drugs used in the usual treatment of the common cold such as aspirin, nose drops, lozenges, etc. Cases were taken in rotation: first case—Neohetramine; second case—placebo; third case—usual drugs; fourth case—Neohetramine, etc. Again cases were grouped as to the phase of the disease by nasal smear, examination and history.

TABLE II.
TREATMENT OF THE COMMON COLD WITH NEOHETRAMINE

Stage of Disease	Neohetramine		Placebo		Usual Medication	
	No. of Patients	Av. Days for cure/case	No. of Patients	Av. Days for cure/case	No. of Patients	Av. Days for cure/case
1st phase	40	1.2	26	6.2	30	5.1
2nd phase	46	2.8	58	5.3	56	4.6
3rd phase	18	5.1	22	5.3	15	4.7

RESULTS: Table II shows that Neohetramine is the treatment of choice in the first and second phases of the common cold as compared to the usual medication, but it is of no value once there is invasion of the mucous membrane by secondary invaders. Of the subjects who began treatment during the first 48 hours after the onset of symptoms, 100% responded to therapy.

Subjective report of "cure" by the patient was, of course, gratifying. However, all such reports were confirmed by examination of the nasal mucosa. In compiling our results, regression of edema and normal appearance of the mucosa served as our criteria for "cure."

Discussion

AS BREWSTER[2] pointed out, it is reasonable to assume that the common cold begins as an

allergic reaction. The assumption is supported (1) by the similarity in rhinitis symptoms of an acute head cold as compared with other allergic states, (2) by the extraction of a histamine-like substance from the nasal secretions of patients with head colds,[1] and (3) by the demonstration in this study that 42.6% of 96 patients revealed an appreciable eosinophile count in the nasal smears during the first 24 hours of the infection.

Theoretically, therefore, it should be possible to abort the common cold if an antihistaminic drug could be given in adequate dosage during the first 48 hours of the disease. Table II indicates that this theory became an accomplished fact: administration of Neohetramine during the first 24 hours relieved colds in one-fifth the time as compared with the placebo series; and if given during the second 24 hours, the time required for complete relief was cut by half. By contrast, the aspirin group showed no significant change.

The six-month prophylaxis study demonstrated essentially the same thing: of 100 individuals receiving 150 mg. daily, only 1% developed third phase (purulent stage) colds; of 100 receiving 100 mg. daily, 3% developed third phase colds; and of 100 receiving 50 mg. daily, 12% developed third phase colds. In the control group of 300, nearly 60% developed the purulent phase. Furthermore, a combined 80.3% of the 300 controls developed second and third phase colds, as contrasted with 5.6% in the three Neohetramine series.

The type of cold developing in the test and control groups is very significant. Individuals who routinely took Neohetramine did not develop cough, malaise, nasal obstruction, and pyrexia. Thus secondary invasion by pathogenic bacteria capable of causing complications appeared to be prevented. By contrast, 11 of the 179 controls who developed full-blown colds required bed rest for complications such as pneumonitis, bronchitis, and sinusitis.

Thus prophylaxis succeeds not only in preventing colds in the great majority, but also in attenuating the colds that do occur.

Brewster[2] has said, "It is believed that real progress in the elimination of the common cold will be made when and if an antihistaminic drug which is effective and yet sufficiently safe to permit the public to purchase it without a prescription is developed." In the current prophylaxis study, nine patients receiving 150 mg. Neohetramine daily for six months complained of dryness of the throat and sneezing and two patients complained of slight nausea. All symptoms disappeared when daily dosage was reduced to 100 mg. The remaining 200 cases on a daily dosage of 50 or 100 mg. experienced no side reactions. Since the clinical results with 100 mg. or 150 mg. daily were nearly equivalent, 100 mg. Neohetramine daily appears to be a safe yet effective antihistaminic drug for this purpose.

The question of eventual effects of prolonged use of these drugs has also been raised by Brewster.[2] In a study involving the use of Neohetramine in the exudative phase of pulmonary tuberculosis, Judd and Henderson (*Annals of Allergy*, 7:306, May-June, 1949) report the daily administration of 350 mg. over a five-month period without ill effect. In a private communication, Henderson related three patients who received 300 mg. daily over a four-month period without evidence of toxicity. Thus, of the available antihistaminics, Neohetramine in our opinion approaches the closest to the ideal of a safe drug in clinically effective dosage.

Conclusions

THE EARLY phase of the common cold reveals certain manifestations of an allergic phenomenon.

2. Neohetramine can be employed prophylactically over a prolonged period of time in 50-150 mg. q.d. doses with excellent results in the prevention of the common cold.

3. Neohetramine gives excellent results in the treatment of the common cold during the early stages.

4. Toxic manifestations of Neohetramine are essentially non-existent.

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Dermatologic Therapy with Cod Liver Oil Ointment

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SINCE the status report on the external use of cod liver oil prepared by the Council on Pharmacy and Chemistry appeared in 1943,[1] an additional body of literature on this subject has accumulated. At that time, the Council indicated the need for further scientific observations before it could either recommend or condemn the product conclusively, pointing out the conflicting opinions published by the medical profession and the regrettable lack of carefully controlled experimentation.

Löhr,[2] who published the first enthusiastic report on cod liver oil for external use, claimed that it hastened epithelization of large areas and converted unhealthy, necrotic sections into clean, bacteria-free wounds. Kirschner[3] sharply disagreed with him, holding that zinc ointment was preferable and that, to his knowledge, cod liver oil did not always cause wounds to epithelize rapidly, rendering skin grafting after burns unnecessary as had been claimed. Lücke[4] and Buchheister[5] swelled the chorus of acclaim, as did Steele[6] and Schaer.[7] However, MacCollum,[8] employing other unguents as controls, found that all had about the same effect. Hardin,[9] Aldrich[10] and Brandaleone[11] all spoke favorably about cod liver oil for wound therapy, burns, indolent ulcers, pruritus ani and vulvae.

These latter reports, in the main, ignored the setting up of careful controls and such animal studies as those of Puestow, Poucher and Hammatt,[12] Getz,[13] Brandaleone and Popper,[14] which conclude that the scar tissues on experimental animals were not superior to those of scars resulting from a variety of other therapies. Lauber[15] and de Rötth[46] concluded that cod liver oil therapy was not living up to its early expectations. Some reports stated that the ointment was a cure-all, while others did not find it a whit more effective than other benign unguents. The entire difficulty with these early reports was their unscientific approach to these individual studies. Young and Fisher[17] point this out in their article. Incomplete, insignificant and conflicting data greatly detract from the conclusions presented. No sound evaluation of cod liver oil ointment in the medical armamentarium can be made without a review of available studies as an introduction to the new clinical data reported herewith.

The papers more recently published fall naturally into two groups, those considering the efficacy of this preparation for use in the treatment of burns and wounds, and those presenting evidence of its relative efficacy in a variety of dermatological situations. For the purpose of clarity, we will discuss these findings under the headings so mentioned.

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This investigation was aided by a grant from the Desitin Chemical Company, Providence, Rhode Island.

Burns and Wounds

HARDIN,[18] reporting 346 cases of various types of wounds and burns where cod liver oil ointment was employed, was frankly enthusiastic about the results obtained. He pointed out that while greases and oils were contra-indicated because they fail to "seal" the damaged tissues, he believes with Clayton[19] that cod liver oil differs from other greases and oils, in that coagulation in the form of an elastic membrane instantly occurs on contact with the body tissues of the burned areas. He thus considers the existence of a physico-chemical parallelism between the old tannic acid therapy and that of cod liver oil ointment. While tannic acid forms a hard, adherent eschar by mutual precipitation of colloids from their aqueous environments, the oil forms a pliable, elastic membrane by interfacial precipitations, probably accounting for the minimal cicatrization produced by the cod liver oil ointment. Hardin further characterizes the latter as sterile and bactericidal, capable of an unusually stimulating effect on granulation and epithelization resulting in rapid regeneration of tissue defects. He believes the oil exerts a beneficial systemic effect, accelerates liquefaction of necrotic tissue, reduces toxicity to pus, forms a protective layer over the wound surface, requires infrequent dressings, is comparatively painless and, finally, minimizes cicatrization. The most delicate tissues, such as those in the exposed brain, the cornea, and exposed intestines, may receive applications of the cod liver oil ointment without fear of irritation or infection. He recommends commercial ointments prepared with petrolatum as the odor is less offensive than if mixed at home.

In the same year, Hamilton[20] engaged in a comparative study of four different local preparations as applied to 199 burns in 192 hospitalized patients. Employing a cod liver oil ointment, combining a high concentrate of vitamins A and D with petrolatum, Foille, tannic acid and sulfadiazine, he discovered that superficial burns, correctly treated, heal kindly, no matter which of the four preparations is employed. However, when deeper burns were concerned, he found Foille superior to the three other agents for its simplicity of application, reduction of healing time of third degree burns, as a detergent for grease and oils, and in its formation of a soft,

mildly antiseptic, easily changed coating, ideally suited to infected burns, burns of the hands, face or genitalia and to the sloughing stage of third degree burns.

Callahan,[21] in describing his paper tissue dressings for the treatment of burns, recommends they be used with cod liver oil ointment, since such a dressing will not break granulation or epithelium, either in place or upon removal. Although he notes the same is true of other ointments or when the paper tissue dressings are used alone, in giving directions for the use of his special therapy, he specifies the application of cod liver oil ointment, both in clean and infected burns: "A burn surgically clean from soapy water, sterile water cleansing, dried, covered with cod liver oil ointment direct, this covered by a single layer of paper tissue, redressed a minimal number of times, kept in daily motion, will heal with no infection and a minimum of pain and scar. An infected burn cleansed freely with soapy water, sterile water and debridement, dried, covered with cod liver oil ointment direct, this covered by a single layer paper tissue, redressed daily, then less frequently as desired, kept in daily motion, will heal in a minimum of time with a minimum of pain and scar without contracture." In his conclusion, Callahan speaks of cod liver oil ointment as a valuable adjunct to his tissue dressing and notes that it can be used safely on the eyes, delicate mucous membranes, skin or any injured or uninjured tissue. He also has a good word to say about its ready availability, its inexpensiveness and the ease with which it may be transported in a war situation. Lirka, discussing the article, reminded us that the single objectionable aspect of the treatment was the smell of crude cod liver oil, which was originally used but has now been replaced by the odorless ointment. Lirka's experience with the ointment led him to recommend it for use in burn therapy on the basis of its ease of application, modification of pain, lessening of severe scarring and acceleration of the healing period.

Two years later, Daughtry[22] covered 713 cases, of which 171 were burns and the remainder many varieties of surgical conditions. Twenty-six major burns received cod liver oil ointment in local application and responded favorably. Patients using petroleum gauze and tannic acid as controls required more sedation, were not as free from infection and took 10 days more to heal. The tannic acid therapy resulted in severe scarring and frequent contracture, destroying remnants of viable epithelial cells, which remain unharmed by cod liver oil ointment. Three hundred seven denudations and avulsion-type wounds were treated by cod liver oil ointment or packed with gauze impregnated with this product. Many of these involved large areas of skin and subcutaneous tissue, while some even presented open muscle wounds. After debridement and flushing with a warm saline solution, cod liver oil ointment was applied. Infections were checked and tissue defects disappeared with rapid granulation. The average time for healing was 17 days with scarring minimal to moderate. Similar therapy was employed for 101 cases with cutaneous and far deeper structure defects following surgery. Gauze treated with cod liver oil ointment was applied to the wounds, prohibiting infection of the clean ones, and greatly lessening the infected areas of those already contaminated. All of this group healed satisfactorily without resorting to skin grafts: the rapid formation of granulation tissue accelerated epithelization. Nine cases of osteomyelitis responded to cod liver oil ointment therapy successfully. Nineteen sloughing and infected abdominal wounds were either packed or injected with the ointment, and within five to seven days, healthy granulation appeared at the bottom of the wounds and healing was completed in from four to nine weeks.

It would be unwise not to indicate here that reports have been made on treatments using cod liver oil ointment in combination with other therapeutic measures. Thiessen and Steinreich,[23] employing cod liver oil ointment from 5% to 10% to avoid the thick, fibrous scars too often occurring with the usual eschar-producing medications, felt that the checking of infection in burned areas was not solved entirely until they added 10% powdered sulfathiazole to an equal amount of cod liver oil in a lanolin-petrolatum base. This balanced concentration came to be known as the "10 & 10" therapy and the average hospitalization was cut from 17.3 days to 9.4 days. The authors conclude by advocating that this combination of cod liver oil and sulfathiazole ointment be substituted for the tannic acid ointment used by the Army in its field medical units.

In the same year, Welferman and Adams,[24] in treating burns, ulcers and abrasions, noted that when sulfanilamide or sulfathiazole was added to the cod liver oil ointment, healing was more rapid, the discharge less, and the period of disability considerably shortened. Using 40% white wax with 60% standard cod liver oil, they redistributed the proportion to allow for the addition of 6% of the sulfonamide to improve the ointment's efficiency. This ointment was spread on gauze, which, in turn, was applied to the burns and abraded wounds. These authors believed that the bacteriostatic and sterilizing properties of cod liver oil stimulated granulation and epithelium above and beyond the bacteriostatic power of sulfanilamide or sulfathiazole when used alone.

Three years later, Brezin,[25] introducing 10% sulfathiazole and 10% cod liver oil in a lanolin base directly into severely infected postoperative wounds of the hands, found, after 48 hours, that infection was checked and that healthy, pink granulation was already present. An aqueous solution of 5% chlorox was employed daily for soaking the hand to facilitate separation of necrotic from viable tissue. Movement was possible without pain and contractures were absent, due, no doubt, to deletion of abrasive packing and the manipulation of drains. The author pointed out that the economy of the therapy is obvious:

hospitalization is reduced, postoperative nursing care is at a minimum, and the time formerly employed for complicated dressings is saved. The patient himself is able to return to his work more rapidly, without having to pass through a rehabilitation period involving physiotherapy.

Dermatoses

THERE have been few articles published in the last 10 years covering the use of cod liver oil ointment for therapy involving conditions other than those concerned with burns and wounds. Banyai,[26] however, continued his previous reports by examining the local application of cod liver oil and cod liver oil ointment in cases of lupus vulgaris, including the ulcerating, non-ulcerating and verrucous types, lichenoid tuberculids and scrofuloderma. He recommends the use of plain, commercial cod liver oil, sterile in its natural state: 600 U.S.P. units per gram and a vitamin D potency of not less than 85 U.S.P. units per gram. The American product contains nine parts of iodine per million. Ordinary gauze is immersed in this oil and applied to the diseased areas, covered with oiled silk or waxed paper, and bandaged. These dressings are changed twice daily, the purulent exudate being removed when necessary with a sterile swab prior to application of the oil. A few drops of turpentine on the outer surface of the dressing helps to counteract the objectionable odor of the fish oil.

Although Banyai prefers the liquid form, when the contour of the body surface under treatment prevents the oil from remaining at the point of application, he considers it expedient to employ cod liver oil ointment. Where the lesions are wide-spread, the ointment may be used for inunction. The formula he recommends contains 12% beeswax and 88% cod liver oil, or 12% unbleached beeswax, 44% vaseline and 44% cod liver oil. The author considers it advantageous to dab the surface to be treated with the oil before applying the ointment. Where cases of this nature are concerned, lanolin as a base must be discarded since prolonged application may become irritating and end by defeating rather than assisting the healing process. Banyai observes that epithelization of the ulcerated areas may appear as early as the seventh day of therapy and the cosmetic results attained by cod liver oil and cod liver oil ointment are superior to those obtained from any other procedures, even though the formation of an atrophic scar is a part of the healing process. Should there be a recurrence in from one to five years, response is prompt to cod liver oil treatment. Based on these observations, Banyai concludes that the topical application of cod liver oil and cod liver oil ointment should be .recommended as a useful adjunct to generally accepted methods of treatment for certain types of tubercular lesions.

Fitzgerald joined with Banyai[27] the next year to report on the treatment of oral tuberculosis, which may develop in any part of the oral mucosa, although the tip, border, dorsum and base of the tongue are the most frequent sites. The cases which they considered were secondary or metastic types, complication of a manifest pulmonary tuberculosis. In some cases, the oral lesions were incurred by direct implantation of tubercle bacilli from the diseased lung and some were brought about by hematogenous or lymphogenous spread. The oral mucosal involvement might also result from direct extension of lupus vulgaris of the face or a tuberculous process in the larynx. The authors account for the therapeutic action of cod liver oil by remarking on the sterility of its natural state; its bactericidal effect on streptococci and bacillus coli and staphylococci usually encountered in infected wounds; its tendency to increase the metabolic rate of leucocytes and reduce the toxicity of pus; its acceleration of the liquefaction of dead tissues; its stimulation of granulation and hastening of epithelization.

In contrast to the beneficial results obtained in the treatment of tuberculous lesions, Thacker[28] calls attention to the effect of cod liver oil ointment in the treatment of psoriasis. In 12 cases, where plain lanolin was used as a control on the same patient on similar lesions, those areas on which cod liver oil ointments in varying strengths were applied, exhibited no difference in healing power from control areas.

On the other hand, Aldrich[29] reported his new therapy for pruritus ani, which he claims has been sufficiently satisfactory in a large enough percentage of patients to warrant its being reported in medical literature. For eight years, the author has been employing cod liver oil ointment alone in the treatment of pruritus ani and in conjunction with the injection of 95% alcohol, following the technique of Stone. In most cases, the ointment was used for a week and then the alcohol was resorted to, if necessary. While the results obtained with the ointment were most gratifying, it was difficult for the patients themselves to apply it. They were rarely able to get the substance as high as the muco-cutaneous border, and almost invariably spread it on the surrounding area of their buttocks, soiling their clothes. Finally, a 70% cod liver oil ointment was prepared in gelatin capsules, each containing approximately 2.5 grams of a rather semi-solid cod liver oil ointment. The capsule tapers at one end, allowing for easy anal insertion, after an incision has been made on the side of the tip to permit expulsion of the ointment. With light pressure on the body of the capsule, the cod liver oil ointment may be squeezed into the anus, and then applied directly to the perianal region. Application should be made after cleansing with clean top water and the dosage varies from two to three capsules a day. Of 29 cases treated in this manner, only three failed to respond, while a high percentage required only from two to three weeks in which to exhibit a vast improvement. Compared to reports of other local treatments, the cod liver oil ointment seems to prove its superiority. Not only are there no allergic or toxic manifestations following application, but

the patients appreciate the ease of treatment and their full cooperation hastens the cure.

Experimental

THIS preliminary report was undertaken to evaluate the action of chlorinated cod liver oil ointment in the treatment of various dermatoses. The precise mechanism of the local action of cod liver oil remains unknown, although the vitamin content of 1,800 vitamin A units and 175 vitamin D units per gram, has usually been held responsible.

The ointment used in the therapy of these cases contains cod liver oil in a base containing zinc oxide, talc, petrolatum and lanolin.* In addition, this ointment is halogenated, a small amount of chlorine being slowly added to the base during manufacture. The chlorine is practically inert, due to the fact that it is chemically within the molecule, and as such exists in a bound rather than a free state.

The bulk of the patients were treated at the dermatologic clinic and on the dermatologic wards of Bellevue Hospital. A much smaller group was composed of private patients whose cases are discussed separately. The attached charts deal with these cases individually.

Analysis of the Cases from Bellevue Hospital

ECZEMATOID DERMATITIS. Under this classification, is included a group of elderly patients who have had chronic, recurrent, itchy eczematoid plaques, mainly on the extremities, and, in whom contact or stasis etiology is not apparent. Of the 31 patients treated with modified cod liver oil ointment, 11 failed to return for a follow-up. We may presume that a large percentage of these must not have reported back because of the successful termination of the dermatitis. The condition of five others remained unchanged; three were obliged to stop the treatment because of increased discomfort and 12 were entirely healed. It seems pertinent to add that those patients who did not respond to modified cod liver oil ointment, failed likewise to improve with other conventional forms of treatment. The single case of infectious eczematoid dermatitis completely cleared in two weeks.

STASIS DERMATITIS. It is in this group of 35 patients, most of whom were over 50 and suffering from ulcers or erosion of the lower extremities, that we noted the greatest percentage of benefit. Six incomplete histories probably indicate at least four who failed to return because of good results; only three remained unchanged and the same number discontinued the ointment because of an increase in pain and exudation. Twenty-two were either appreciably improved or completely cured. Relief of pain was prompt in most of the successful cases, and the drying property of modified cod liver oil ointment acted favorably on the exudation.

It is interesting to note that five additional cases of stasis dermatitis were treated with modified cod liver oil ointment while the ointment base was used as a control in the method of paired comparisons. The modified cod liver oil ointment was used on the right leg, the ointment base on the left. In two cases, the legs with the ointment base responded more favorably, while in one case, the leg treated with the ointment itself healed more rapidly. In the remaining two cases, there was no perceptible difference.

DERMATITIS VENENATA. In seven cases studied, only two gained relief and those were suffering from a very mild dermatitis of the hand and of the leg. Of the remaining five, three were forced to discontinue treatment because of local irritation, and two failed to report back to the clinic.

In addition, three cases of dermatitis venenata with bilaterally symmetrical eruptions, were treated by the method of paired comparisons with a modified cod liver oil ointment, using the ointment base as a control. Three elderly white women, with their lower extremities involved, proved that cod liver oil ointment in one case alone healed more rapidly. In the remaining two cases, no difference whatsoever could be distinguished between the areas treated with the ointment itself and those treated with the ointment base.

ATOPIC DERMATITIS. Of five patients afflicted with oozing, eroded, fissured surfaces of the neck and flexures, three found rapid relief, one failed to report back to the clinic and was presumably cured, and the fifth, being an alcoholic, neglected to care for himself and eventually required hospitalization.

DYSHIDROSIS OF THE FEET. Five cases were treated with the modified cod liver oil ointment. Three failed to report back, one was completely healed in a week, and the fifth, a severe case, after only two days of the treatment, had to be rehospitalized.

TRAUMATIC ULCERS. Three patients, suffering in turn from ulcerations of the ball of the foot, the right shin and the right foot, failed to report back to the clinic. It is possible that their light cases responded to the one week's treatment and no further attention was required, except for an alcoholic whose sense of responsibility to himself was not to be trusted. Two other patients, one with an ulcer of the leg, another of the penis, were healed within a few weeks of the inception of the treatment.

PYODERMA. Of six cases, four of which were stubborn and indifferent to other classic therapies, four responded successfully to modified cod liver oil ointment, one remained unchanged, and one had to discontinue treatment because of increased pain and exudation. Of the four that healed, one required other types of treatment for several particularly deep ulcerations about the ankles.

ARTERIAL IMPAIRMENT CAUSING ULCERS OR EROSIONS. Improperly united fractures of the leg with attendant poor circulation, resulted in ulcers

* Desitin ointment supplied by the Desitin Chemical Company and purchased on the open market.

and erosions, which in two out of three cases, dried rapidly and healed within three to four weeks under modified cod liver oil ointment. The third case failed to report back to the clinic after one week's application.

CHRONIC ECZEMA OF THE HANDS. Unfortunately, all three cases, two mild and one recurrent for many years, after a week's treatment, failed to return for further check up and no results were obtainable. This is one of the hazards of relying upon clinic patients when follow-ups are of such paramount importance for the investigation.

DISSEMINATE NEURODERMATITIS. The two cases reported were both moderately relieved; one in a week, the other in two.

INTERTRIGO, ADULT AND INFANTILE. Of three adults treated with modified cod liver oil ointment, one responded favorably, one remained with a condition of extensive erosions unchanged, and one's history was incomplete.

Eight cases of diaper rash suffered by infants from five to 18 months of age, were completely cured by modified cod liver oil ointment, in from two to seven days in the pediatric division. The ointment seems to form a protective coating for the infants' delicate skin, in addition to its prophylactic attributes. This rapid healing, without exception, of the most excoriated buttocks, in so brief a time, would indicate that modified cod liver oil ointment is particularly suited for the treatment of infantile intertrigo. Further studies of such cases are in progress.

CHRONIC RADIODERMATITIS. Two patients were treated with modified cod liver oil ointment, one having severe telangiectasia with ulceration; the other, extensive erosions of the left groin. The former received relief, with the ulcerating points becoming less prominent, but the latter discontinued treatment because of increased exudation.

PEMPHIGUS VULGARIS. Modified cod liver oil ointment had to be abandoned after a few days in the two cases under consideration. Dressings had to be forcibly and painfully removed, because the ointment could not be made to adhere to the moist lesions. Linen or muslin, capable of being buttered by the ointment, soon became too stiff and boardlike to be tolerated.

BURNS. No report was given by the patient after being treated for one week for a burn of the outer surface of the left elbow. The literature dealing with the success of the cod liver oil ointment in the treatment of burns, would indicate that sufficient relief was obtained to discontinue treatment.

The medical staff of the New York City Fire Department has recently employed this modified cod liver oil ointment for burn therapy in a small series of cases, and reports favorable results.

CELLULITIS. The single patient treated for edema of the feet and maceration between the toes, abandoned treatment in two days, complaining of caked ointment which made walking extremely painful. The single sufferer from decubital ulcer discontinued modified cod liver oil ointment upon increase of pain and exudation. The patient with pruritus vulvae, indifferent to other therapies, responded immediately to modified cod liver oil ointment and was cured in a week.

SULZBERGER-GARBE DISEASE. The modified cod liver oil ointment reduced the amount of exudation and stimulated with unusual rapidity, new epithelium in the one case under consideration. For five years, the patient had suffered from general itching of the entire body with no results from artificial fever therapy or the use of antihistaminics.

CHRONIC LICHENIFIED ECZEMA. The patient suffering from irregular excoriated patches of this eczema on both legs, was subjected to the method of paired comparisons, by having the modified cod liver oil ointment applied to the right leg and ointment base to the left. There was marked improvement on both legs, with the right (cod liver oil ointment) response slightly better.

Private Cases

ANALYSIS of Private Cases Treated with Chlorinated Cod Liver Oil Ointment:

BURNS. Modified cod liver oil ointment completely cured, in one and a half weeks, the second degree burns of the dorsum of the right hand and the left third finger of the patient.

CHEMICAL DERMATITIS. After using Lassar's paste without result for five weeks, the patient was changed to modified cod liver oil ointment and the dermatitis was completely healed in one week.

DYSHIDROSIS. After one week, there was marked improvement in the pustular eruption and scaliness of the palms of this patient.

HYPOSTATIC ECZEMA. After two weeks of modified cod liver oil ointment, the skin of the 55 year old man became softer and less pruritic. After the fourth week, lichenification was still present but only in a considerably diminished state.

KERATOSIS. After electrosurgical removal, the wound was completely healed in one week.

MOLLOSCUM CONTAGIOSUM. Four exudative pustular lesions were treated by the method of paired comparisons. The two treated with modified cod liver oil ointment healed completely in one week. The two treated with petrolatum took just twice as long to heal.

SEBACEOUS CYST. After removal of cyst, the wound healed in two weeks.

ULCER OF BACK. Numerous therapeutic measures failed to give relief to a chronic ulcer of one year's duration. One week of modified cod liver oil ointment caused the lesion to fill in. A few nodules remained in the margin but there was no further ulceration.

VERRUCA FILIFORMIS. After removal of several verrucae from the neck, two cases healed completely in the space of one week.

VERRUCA VULGARIS. Six lesions of the right hand removed by means of electrosurgery, healed completely in two weeks.

Conclusions

IN FORMING any conclusive opinion of the value of modified cod liver oil for external use, specifically in ointment form, we must respect the literature which has appeared on the subject, as well as our own cumulative experience from experimental studies.

It would appear in surveying the former, and nothing within our observation contradicts it, that cod liver oil ointment is notably successful in therapy involving wounds and burns. Medically it demonstrates its superiority by accelerating the liquefaction of necrotic tissues because of its sterile, bactericidal nature; by its unusual hastening of epithelization resulting in the rapid regeneration of tissue defects; by lessening pain; by its lack of irritating properties which makes it suitable for application to the most delicate tissues, such as those of the exposed brain, intestines, or the cornea; and by cicatrization with a minimum of contracture.

Practically, the ointment establishes its worth because of its ease of application, saving time consumed by complicated dressings, and curtailment or lessening of the normal healing period, reducing hospitalization and nursing care. In addition, it offers ready availability, is inexpensive, and may be transported easily in emergencies.

Where dermatoses are concerned modified ointment has proved valuable in the treatment of certain types of active cutaneous tuberculosis and of pruritus ani and vulvae. Our observations indicate that stasis dermatitis, eczematoid dermatitis, adult intertrigo and arterial impairment causing ulcers or erosions respond favorably to this therapy.

The use of modified cod liver oil ointment for infantile intertrigo (diaper rash) must be highly recommended for the rapidity of its healing action. The ointment appears to form a slightly impervious film, protecting the delicate skin, in addition to its prophylactic attributes, and may therefore be employed as a preventive measure in lessening the irritating effects of wet diapers on the infant's skin.

Studies undertaken by the method of paired comparisons, using cod liver oil ointment with the ointment base as a control, indicate that in some dermatoses, other bland ointments might be of equal value. Definite contra-indications for its use have been noted in cases of pemphigus vulgaris and the various bullous dermatoses.

Further experimentation with modified cod liver oil ointment therapy is in progress and will be reported in the future.

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NOTE: This article is available in reprint form, copies of which will be furnished on request. The reprint contains—in details corresponding to those listed on the following page—the histories of 135 cases as follows:

TREATMENT WITH COD LIVER OIL OINTMENT AT THE CLINIC OF BELLEVUE HOSPITAL		
Eczematoid Dermatitis	31	cases
Infectious Eczematoid Dermatitis	1	"
Stasis Dermatitis	35	"
Dermatitis Venenata	7	"
Pyoderma	3	"
Chronic Eczema of Hands	3	"
Disseminate Neurodermatitis	2	"
Intertrigo	6	"
Atopic Dermatitis	5	"
Dyshidrosis of Feet	5	"
Traumatic Ulcers	5	"
Arterial Impairment Causing Ulcers or Erosions	3	"
Pemphigus Vulgaris	2	"
Radiodermatitis, Chronic	2	"
Burns	1	"
Cellulitis	1	"
Decubitus	1	"
Pruritus Vulvae	1	"
Sulzberger-Garbe Disease	1	"

TREATED WITH CHLORINATED COD LIVER OIL OINTMENT		
Stasis Dermatitis	5	cases
Dermatitis Venenata	3	"
Chronic Lichenified Eczema	1	"

PRIVATE CASES		
Burns	1	case
Chemical Dermatitis	1	"
Dyshidrosis	1	"
Hypostatic Eczema	1	"
Keratosis	1	"
Molluscum Contagiosum	1	"
Sebaceous Cyst	1	"
Ulcer of Back	1	"
Verruca Filiformis	2	"
Verruca Vulgaris	1	"

Cases Treated with Cod Liver Oil Ointment at the Clinic of Bellevue Hospital

Case	Pt.	Age	Race	Sex	History	Description	Weeks Treatment	Results
Eczematoid Dermatitis								
3.	L.C.	52	W	F	Complaint of an eruption of the legs off and on for the past 6 years. Severe itching. The present attack is of 1 year's standing.	Poorly defined moist exudative patch occupying all the surfaces of the right leg.	3	Oozing promptly stopped; eruption completely cleared except for pigmentation. Condition remained good during 1 week follow-up. Completely healed 2 weeks later.
13	M.K.	67	W	F	Complaint of itching of the right ankle of 4 mos. duration.	Irregular exudative patch about double half-dollar size just behind the right medial malleolus.	4	Lesion almost completely healed. Condition continues good after 5 weeks of follow-up, during which chlorinated cod liver oil ointment was continued.
18.	J.M.	68	W	M	Complaint of "sore" right foot of 10 weeks' duration.	Poorly defined, moist, oozing eruption of the dorsum of the right foot, extending to the bases of the toes.	12	Oozing stopped after 1 week of chlorinated cod liver oil ointment dressings, and lesions healed completely after 2 weeks. However, relapse has been observed, necessitating continued dressings.
24.	J.V.	15	PR	M	"Eczema" since childhood; now has a palm-sized patch on the left ankle. Flare-up last week after following trial of tar ointment.	Extensive exudative patch occupying ankle and dorsum of the foot.	1	Exudation has completely stopped and itching is relieved.
Infectious Eczematoid Dermatitis								
1.	M.S.	63	W	M	Ten days before, developed an abscess of the posterior surface of the left thigh. As the lesion discharged, a patch of dermatitis developed around the orifice and extended down the back of the leg.	Palm-sized patch of erosion and crusting about the site of the abscess.	2	Practically cleared up.
Stasis Dermatitis								
1.	A.McK.	55	W	M	Recurrent swelling, pain and redness of the right leg for past 2 years.	Extensive exuding erosions.	2	Chlorinated cod liver oil ointment formed a firm cake over the raw, exuding surface, exerting a drying tendency. It absorbed the moisture which exuded and inhibited further exudation. Satisfactory healing took place.
3.	J.B.	58	W	M	Persistent eruption of both legs of 1 year's duration. Previously treated with indifferent results with wet dressings, elevation, etc.	Extensive weeping dermatitis of both legs, with some superficial ulcerations.	1	Oozing stopped; dermatitis healed.
4.	K.O.	80	W	F	"Sore" leg of one month duration. Previously treated with wet dressings with some improvement.	Quarter-sized ulcer, surrounded by pigmentation, on the anterolateral surface of the middle third of the right leg. 1 week's treatment with saline wet dressings with indifferent results.	3	Rapid and complete healing.
Intertrigo								
1.	J.R.	44	W	M	Complaint of an itchy eruption of the groins of 1 year's duration.	Sharply defined, lichenified dermatitis intercrural and perineal areas. No fungus found.	1	Considerable improvement. No further follow-up.
Atopic Dermatitis								
1.	A.B.	8	W	M	Eczema of arms and legs from age of 2 weeks.	Extensive oozing, eroded surfaces on cubital spaces, wrists and popliteal spaces.	1	Eruption almost disappeared, only a faint, scaly erythema remaining.
5.	R.S.	19	W	F	Typical eruption since age of 3. Present eruption of the cubital and popliteal spaces of 2 weeks' duration.	Diffuse papulovesicular eruption of flexures.	2	Much improved in appearance, but still complains of itching.
Traumatic Ulcers								
1.	J.B.	41	W	M	Left shin scalded by boiling water at age of 5. Since then, ulcers from slight trauma.	Several coin-sized ulcers; resulted from fall.	2	Considerable improvement.
2.	J.S.	73	W	M	Complaint of sores of penis off and on for past 2 years; present sore is of 3 weeks' duration.	Ulcer 0.5 x 1.5 cm. on dorsal part of distal end of shaft of penis.	3	Completely cured.

Nitroglycerin Reactions Among Pharmaceutical Workers

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NITROGLYCERIN has been used in the treatment of angina pectoris for many years. It has long been recognized as a potent drug, bringing about a powerful physiological response. In spite of this, however, very few physicians have ever given a thought to the problems involved in the handling of this drug by those engaged in its manufacture and in the preparation of its several dosage forms. In the latter case, the reaction from exposure to nitroglycerin represents an unpleasant and undesirable complication, causing the worker considerable discomfort and illness, and resulting in a production problem of some magnitude.

The pharmaceutical industry has been faced with this problem for many years. Many control procedures have been instituted, none of which has proved entirely satisfactory. This study was undertaken in order to evaluate the effectiveness of existing preventive measures and to re-survey the entire problem from the point of view of adopting additional controls.

A review of the literature reveals a paucity of published work on the incidence of reactions resulting from the handling of nitroglycerin. The few studies which have been performed in the past refer solely to nitroglycerin exposure in the explosives industry. Not a single published work was found with reference to the problems entailed in the preparation of nitroglycerin products for medicinal use. In view of this, the pharmaceutical hazard of nitroglycerin handling is given special emphasis in this paper, though much information was derived from a consideration of nitroglycerin reactions among munitions workers.

Origin, Properties and Uses

NITROGLYCERIN was discovered in 1847 by Sobrero, of Turin, Italy, who originally called it "pyroglycerin." Its chemical composition was determined in 1854 by Williamson.[11] Nitroglycerin attracted little attention until 1867, when Alfred Nobel, a Swedish engineer, suggested its use as an explosive by mixing it with inert substances, such as infusorial earth, to make the product known commercially as dynamite.[12]

Nitroglycerin (glyceryl trinitrate, glonoin) is a colorless, odorless, oily liquid, with a burning, sweetish taste. Almost insoluble in water, it dissolves readily in ether, chloroform, and absolute alcohol. On concussion or rapid heating, it expands violently, usually with explosive force.

In medicine, nitroglycerin is used in the form of a 1% alcoholic solution (spiritus glycerylis trinitratis), and in tablets of 0.6 mg. (1/100 gr.), to be dissolved under the tongue. Its chief therapeutic indication is the treatment of angina pectoris. It is also reported useful in the treatment of arterial hypertension, epilepsy, certain types of asthma, spasmodic migraine, hyperemesis gravidarum,[1] and cardiac insufficiency. It has long been used to produce temporary cardiac effects for the purpose of malingering in order to escape military service. As an explosive, nitroglycerin is an important component of dynamite, cordite and blasting gelatin.[2] Most of our available knowledge concerning nitroglycerin poisoning has its source in the occurrence of these cases in the manufacture of explosives.

Physiological Action

THE MOST important action of nitroglycerin is its direct vasodilating effect on the blood vessels, resulting in a prompt fall in blood pressure. The vasodilatation appears first as a flushing of the face, which may then extend over the entire trunk. At the same time, the meningeal vessels undergo dilation, with resulting redness of the face, heat and throbbing in the head, and headache.

The vasodilating effect does not remain confined to the skin but affects other vessels as well. Relaxation of the vessels in the splanchnic area, in particular, causes a rapid fall in blood pressure and frequently a dicrotic pulse. The drug has a direct action on the tunica media, the muscular coat of the arterioles and venules, the drop in blood pressure being due to vasodilatation and not to inhibition of the vasomotor center.[3]

With the fall in blood pressure, the cardiac rate is increased, a reflex effect from the carotid sinus. It is as a result of this action that nitroglycerin has been used so successfully as a means of malingering.

The ordinary therapeutic dose of nitroglycerin, administered orally, takes effect in approximately one minute. A maximum fall in blood pressure is noted in about five minutes. It is retained at that level for two minutes, after which the effect begins to dissipate. The blood pressure returns to its previous level in about half an hour. In rapidity and duration of reaction, nitroglycerin falls between amyl nitrite and sodium nitrite.

Nitroglycerin, like the other nitrites, leaves the blood stream rapidly, even before full recovery of the blood pressure. About 65% disappears in the body, partly by oxidation. The fate of the remainder is unknown. A small amount is normally present in the blood, saliva and sweat, but not in the cerebrospinal fluid or urine.[3]

Its rapid disposal and elimination by the body is the reason for the frequency of dosage required to maintain a sustained effect. It is for this reason, also, that toxic effects from nitroglycerin are acute in nature. Although at times violently severe, these effects usually disappear within 12 hours, unless exposure is continued.

Most cases of poisoning from nitroglycerin are accidental and occur in the explosives and phar-

maceutical industries. Most of the fatal cases have been caused by overdosage of the drug when used as a cardiac sedative.[2]

Laws[6] points out that long periods of intimate contact with nitroglycerin do not seem to have any permanent damaging effects on the body other than a certain amount of tachycardia and dyspnea on undue exertion. He mentions also that nitroglycerin seems to exert a certain aphrodisiac effect, since most "glycerin men" have large families.

Toxic Effects

TOXIC effects from nitroglycerin may result from ingestion of an overdose of the drug, from inhalation of the dust, and from excessive or prolonged skin contact with substances containing nitroglycerin. Of these, only the first method had proved fatal.

The immediate ill effects from contact with nitroglycerin are due basically to the drop in blood pressure. Symptoms may appear within several minutes to several hours after the exposure.

There is usually first noted a sensation of warmth and fullness in the head, closely followed by the characteristic headache (known variously as "powder headache," "nitroglycerin headache," or "dynamite headache"). The headache, intense and throbbing in nature, generally begins in the frontal region and moves back toward the occiput.[5] It may extend down the back of the neck. It is immediately aggravated by walking or stooping. In many cases, the recumbent position may be intolerable,[6] and the patient must remain erect, interfering seriously with attempts to sleep.

In relatively mild cases, headache may be the only symptom. In severe cases, however, there are noted, in addition to the intense headache, severe cramps with nausea and vomiting. The skin is flushed and perspiring. There may be accompanying psychic disturbances, such as dizziness, mental confusion, hallucinations, pugnaciousness and maniacal manifestations.

The respiration is at first hyperpneic, then dyspneic and slowed. The skin then becomes cold and cyanotic. The pulse also becomes slower, then dicrotic and intermittent. Paralysis occurs, followed by clonic convulsions. Death occurs after four to seven hours, due to respiratory failure.

The lethal dose varies greatly. McNally[5] states that a few drops have proved fatal. On the other hand, D. D. Stewart[3] in 1905, reported a patient in whom 20 gr. of pure nitroglycerin produced only slight symptoms. No case is known to the author of death resulting from nitroglycerin poisoning by routes other than ingestion.

The characteristic result of excessive absorption through the intact skin is the typical throbbing, grinding headache, frequently accompanied by nausea and vomiting.

Skin eruptions of variable severity may result from prolonged contact, particularly ulcerations of the finger tips and below the nail.

The potent effect of nitroglycerin on the human body is well attested to by the warning in the National Formulary: "Caution: It should not be tasted, since even a small quantity is likely to produce a violent headache. The same effect is produced when it is applied to the skin."[4]

Susceptibility and Habituation

AS WITH other potent substances, reactions from exposure to nitroglycerin vary considerably with the individual. Relatively few people are found with more than a slight natural immunity to its effects. On the other hand, extreme susceptibility to reactions is frequently seen. Thus, Laws[6] reports that an individual may develop a severe headache merely from shaking hands with a nitroglycerin worker, or even by handling articles previously used by the worker. He mentions that a nitroglycerin worker may cause illness in his entire family simply by returning home in his contaminated clothing.

The fact that varying degrees of susceptibility to nitroglycerin do exist has a certain practical application in industry. In order to minimize discomfort and illness from this cause, with its adverse effect on morale and absenteeism, a basis for selection must be sought so as to place in such jobs only those who are least likely to suffer untoward reactions. This will be discussed later.

Of extreme importance, from a practical standpoint, is the effect of alcohol on persons who have absorbed nitroglycerin. Alcohol diminishes the level of personal immunity and aggravates the toxic symptoms of nitroglycerin by further relaxing the blood vessels.[7] This is emphasized by Rabinowitch, who points out that a worker who has been exposed to nitroglycerin all day with no ill effects may, by the ingestion of a single cocktail or glass of beer, precipitate in a few minutes a severe headache, with palpitation and flushing of the skin.[2]

From a medicolegal standpoint, it is important to bear in mind not only the ease of intoxication under such conditions, but even more serious, the severe form in which such intoxication may manifest itself. Laws[8] pointed out that alcohol and nitroglycerin "are guaranteed to produce a more violent and serious form of intoxication than any other combination known to man."

This combination may produce in any ordinarily quiet, well-behaved individual, a quarrelsome, destructive and even homicidal mania. Ebright[7] reported the case of a construction foreman who had handled dynamite all day, and arrived home in the evening with a typical nitroglycerin headache. Some ill-advised friend recommended whiskey for the headache. Within two or three hours after freely indulging, the worker developed an acute mania. Before he could be restrained, he had killed one bystander and injured another. According to Hamilton[9] it is doubtful that delirium has ever been caused by nitroglycerin except when alcohol was taken with the idea of relieving the headache.

Actual direct homicide through the use of nitroglycerin has been reported.[10] In most cases, the drug was added to alcoholic drinks.

Individuals coming in contact with nitroglycerin for the first time are, in general, quite susceptible to its effects. New workers, as a rule, complain of headaches for the first few days on the job. With constant exposure, however, a certain immunity is acquired by the individual, so that after several days, the symptoms disappear and the worker is comfortable. This immunity, however, is generally quite transient, for when the worker is away from the job for a time, as over a week-end or a holiday, it may disappear. In such cases, upon his return the worker again has headaches for several days until he reacquires immunity. For this reason, it has been an old custom among some workers to place a small quantity of nitroglycerin in their hat bands to maintain contact and prevent loss of their painfully-acquired immunity. This procedure is preferred to actually carrying nitroglycerin in the ordinary clothing, since this would bring it into the living quarters of the house, and presumably provide a source of discomfort for the others in the household. About 2-3% of workers never acquire such immunity to nitroglycerin, and must be assigned other duties.[2]

Warm weather greatly enhances the incidence and severity of the symptoms resulting from contact with nitroglycerin.[6,7]

Method of Pharmaceutical Manufacture

NITROGLYCERIN is received in the form of a powder containing 10% nitroglycerin and 90% B-lactose, in sealed five-pound glass jars, and is stored in the Chemical Stock Department. Just before it is required for manufacture, samples of each lot are withdrawn and checked in the Analytical Control Department for identity, purity and potency. When the material is released, the appropriate formula is calculated and forwarded to Chemical Stock. Here the powder is weighed out in accordance with the requirements of the formula and placed in a glass jar with a closely-fitting screw cap. It is then sent to the Hypodermic Manufacturing Department.

On receipt, the mixer checks the weight of the powder, and then sieves it through a screen, together with other ingredients, into a large mixing pan. The pan is placed in a Hobart mixing machine, where the powder is mixed mechanically for 45 minutes. It is then transferred to a bulk container which is sealed and stored until needed.

When tablets are required, the mixed powder is removed from the bulk container and is weighed out in three-pound batches. Each batch is carefully moistened with the proper amount of menstruum, thoroughly mixed by hand, and again passed through a screen. It is then fed by hand into the hopper of the Colton triturating machine. The tablets are compressed mechanically, and emerge identical as to size and potency. They are delivered from the machine directly to a moving belt. While moving on the belt, the tablets are dried under a series of nine infra-red lamps suspended just above the belt. The tablets are fed from the belt to a tray, which, when filled, is placed on a rack and allowed to stand overnight at room temperature. The following morning the trays are transferred to the Tablet Finishing Department where the tablets are inspected and sorted manually. Any tablets defective as to size or shape are removed. The perfect tablets are sifted on a screen to remove any excess powder and are placed on new clean trays. They are then hand-paddled into appropriate vials and bottles and are sealed.

Upon completion of this process, the department porter removes all excess and waste powder from trays, pans and machines, weighs it, places it in a bottle and removes it for disposal. The collecting and weighing of waste powder serves as an additional check against possible errors.

Nature of the Problem

IN THE pharmaceutical industry, mass production facilities are such that a large amount of any one particular medicament may be manufactured in a short time. With an adequate stock built up, the equipment is then set up to handle another product. In practice, therefore, the workers in a manufacturing department will be exposed to a number of different substances, experiencing the effects of each for a varying period.

The length of each product run and its frequency of manufacture will, of course, depend on many factors. The season of the year, availability of raw material, consumer demand, and new discoveries in medical research all affect pharmaceutical production.

Nitroglycerin is a drug with a stable market and a relatively stable demand. It is, however, the type of drug of which a little, industrially speaking, goes a long way. Relatively short runs, therefore, suffice to build an adequate stock. Because of this fact, the short runs of nitroglycerin have not permitted the building up, among the workers, of a tolerance such as is seen among munitions-handlers who remain in daily intimate contact with this agent.

Drug workers, then, consistently receive the initial impact of nitroglycerin, with its severe pounding headache and other distressing symptoms. Just when they may begin to feel some relief, the schedule calls for the preparation of a different product, so that the beginning tolerance is once again quickly lost.

While the Hypodermic Tablet Department has relatively few employees, the labor turnover in this department has been comparatively high. Considering the nature of the substances handled, this is not surprising. Certainly nitroglycerin contributes more than a small share of the discomfort experienced by these workers, and is an important factor in the higher turnover rate.

Because of such unpleasant experiences, positions in this department have been labelled, among the workers, as "hot jobs." New employees beginning work in this department are regaled by other workers with well-embroidered stories of the severe effects of nitroglycerin. Small wonder, then, that they begin work on

nitroglycerin with fear and foreboding. This very poor mental preparation almost automatically magnifies the symptoms that might otherwise have been dismissed with a shrug by a less-credulous worker. Since it is impossible to insulate any employee from conversation with other workers, the solution of this problem lies in an energetic and earnest effort on the part of management to take every possible measure to eliminate or minimize the ill-effects of the drug, and to establish a more careful method of medical selection of personnel for these jobs.

The effect of suggestibility on headaches among nitroglycerin workers must not be underestimated. While there appears to be a rather clear-cut physiological mechanism for these, we have on record cases showing a definite depression of the blood pressure with no symptoms, and, on the other hand, a number of cases complaining bitterly of headaches, with no change in blood pressure. Psychic influences, then, must play some part in the incidence of this type of headache.

Method of Control

A PROBLEM of this type and magnitude cannot, unfortunately, be solved by any one simple procedure. It requires a general over-all approach, with complete understanding of the problem and a concerted and coordinated program.

I. PRODUCTION CONTROL:

(a) Plan longer and fewer runs of nitroglycerin. Runs should be at least five days long (Monday through Friday) in order to take advantage of the tolerance which appears about the third day.

(b) By planning longer runs, a given amount of material may be prepared by fewer employees, thus decreasing the number of workers exposed.

(c) Avoid running nitroglycerin in very hot or humid weather, when reactions are more frequent and more severe.

II. ENGINEERING CONTROL:

(a) Dust and vapors should be removed at their source by suitable ventilation measures. This should include a hood for the powder mixer. The tablet machine and the drying units should be enclosed and exhausted. The exhaust stream should be of sufficient velocity to draw off the excess dust and vapors, but must be kept below the velocity at which significant quantities of raw material may also be lost. Care must be taken that the exhaust system is terminated safely outside the building where it does not become a public nuisance, and where it will not be drawn in again at some other part of the building.

(b) Powder mixing should be performed under an exhaust hood. The powder mixer should be provided with an adequate supply of clean washable work clothes, preferably of the coverall type, and a light washable cap to minimize contact of dust with his scalp. Of great importance is the use of the correct type of properly-fitted dust mask, and protective gloves.

(c) Where indicated, suitable gloves, masks, and other personal protective equipment must be provided for other personnel in the department.

III. DEPARTMENTAL CONTROL:

(a) Minimize contact with nitroglycerin dust and vapors, with gloves, masks, caps, aprons, etc.

(b) Work uniforms should be changed daily, with thorough laundering after each use.

(c) Hands and face should be washed thoroughly before the noon-day meal.

(d) A shower should be taken at the end of the work day, followed by change into street clothing.

(e) No smoking, eating or chewing should be permitted while working.

(f) Any worker with a head cold, requiring the use of a handkerchief, should be temporarily removed from the job. If this is impracticable, the use of handkerchiefs should be forbidden and the worker should be supplied with disposable facial tissues, in a protected container. It is obvious that a handkerchief, constantly used, inevitably becomes contaminated with dust, and its repeated use directly contributes to the inhalation hazard.

(g) Good housekeeping and a clean, clear workroom are essential. Rooms with littered floors or unnecessary equipment provide additional surfaces for the deposition of nitroglycerin dust and are very difficult to keep clean.

(h) Good personal hygiene is extremely important. Individuals with good personal habits are accustomed to keeping clean and will take more pains in washing, changing clothing, etc.

(i) Adequate instruction by the department manager is of basic importance. Workers should be taught the proper method of handling equipment and materials, proper use of personal protective equipment, methods of minimizing contact with drugs, rules of personal hygiene.

(j) Of great importance is supervisory follow-up, involving frequent inspections by the department manager to see that there is within the department strict adherence to the rules and procedures outlined.

(k) Intelligent, informed and understanding supervision is essential in the maintenance of a good state of worker morale, and the prevention of fear, anxiety, and hysterical reactions.

(l) Inspections should be performed by the plant physician and the safety engineer to lend any indicated technical assistance to the department manager.

IV. MEDICAL CONTROL:

(a) Pre-placement physical examination: Individuals who are to work with nitroglycerin should be given careful medical scrutiny before assignment. They should show no gross cardiovascular abnormality. Individuals with hypotension should not be thus assigned.

For future investigation is the feasibility of employing individuals with a moderate hypertension for this work. With the single exception of powder-mixing, the jobs in this department require very little actual physical exertion. Such an individual may be better equipped physiologically to withstand the drop in blood pressure than so-called normal workers.

For this work, individuals should be selected of a placid, even temperament, of a relatively insensitive nature, and with a low degree of mental suggestibility. Individuals showing hyperthyroid characteristics, of a nervous, temperamental or hypersensitive nature, are poor material for such jobs. Consideration should also be given to skin color and complexion, since it is well known that fair persons are more susceptible to contact dermatoses than those of a darker complexion.

(b) Ingestion of alcohol in any form is strictly interdicted within 12 hours of working with nitroglycerin. Chronic alcoholics must be automatically ruled out of jobs involving intimate contact with nitroglycerin. "Party drinkers" and casual drinkers must be given strict warning as to the possible consequences.

(c) Oxygen inhalation by means of face mask has been tried, with somewhat encouraging results. It is administered for five minutes before work on nitroglycerin, and again for five minutes at the end of the work day. Whether it exerts a definite physiological effect by supporting the blood pressure or whether the effect is largely one of suggestion has yet to be determined. Regardless of the basis for it, however, the use of oxygen inhalations seems to have decreased both the frequency and the intensity of nitroglycerin headaches.

(d) The treatment of nitroglycerin reactions is, in general, rather unsatisfactory. In mild headaches among new workers, acetylsalicylic acid in dosage of 10 grains three times daily will usually relieve the discomfort until immunity is developed, on the second or third day.

For the more severe headaches, a real therapeutic problem is presented. Bromides have no effect and serve merely to irritate the stomach. Coal tar derivatives and depressants should not be used. Small doses of epinephrine may be tried cautiously in selected cases. Cold compresses or ice applications to the head may be of some help. Strong coffee or small doses of caffeine may be useful. Murrell[14] has found belladonna of benefit.

It has been well substantiated that the headache of nitroglycerin results essentially from meningeal congestion, due to dilatation of the blood vessels of the pia.[3] Logical therapy dictates, therefore, that this effect be counteracted by the administration of a drug that would constrict the affected vessels. Unfortunately, very few of the vasoconstrictor drugs exert this effect upon the vessels of the pia. Among these few, however, are certain preparations of ergot, particularly ergotamine.

The rise in blood pressure resulting from the administration of ergotamine is purely vascular in nature, the constrictor action being exerted directly on the arteries.[3]

Attempts were made in several cases to prevent or control nitroglycerin headaches by the use of ergotamine tartrate tablets by mouth, in 2 mg doses, combined with 3 gr. of caffeine citrate. Results have been inconstant and inconclusive. Relief was obtained in certain workers, yet at other times the same dose gave no relief to the same workers after a similar period of exposure.

In an attempt to obtain a more direct effect and a more clearcut result, ergotamine tartrate was administered intramuscularly in dosage of 0.25 mg, repeated in one hour. The two workers concerned claimed no relief from the headache at the end of two hours. Instead, at that time, both complained of considerable nausea, and one suffered several attacks of vomiting. This unfortunate result discouraged the workers from further experimental attempts at treatment, since they claimed (perhaps rightly) that the effects of the medication were worse than the original headache.

Physiologically, ergotamine should be effective, particularly intravenously, in small doses administered slowly and cautiously. We are awaiting an opportunity to check its efficacy by this route, although the high incidence of by-effects may prove to be a definitely limiting factor in its use.

Ergotamine tartrate is very potent and should be used only where directly indicated. It should be used with caution in elderly individuals, and is contra-indicated in cases of arteriosclerosis or any other obliterative vascular disease.

Summary

THE INDUSTRIAL health hazard entailed in the handling of nitroglycerin in pharmaceutical manufacturing is here presented.

2. Properties, uses, physiological action, toxic effects, susceptibility and habituation, and details of the manufacturing process are described.

3. The problem can be solved only by the integrated efforts of the four agencies concerned.

(a) *Production planning:* plan longer runs of nitroglycerin in order to take advantage of the acquired tolerances; work in suitable weather.

(b) *Engineering:* efficient exhaust ventilation; provide proper personal protective equipment.

(c) *Departmental:* enforce good housekeeping; encourage good personal hygiene; provide intelligent and understanding supervision.

(d) *Medical:* better selection of new workers; complete pre-placement examination; forbid use of alcohol; oxygen inhalation for prophylaxis and therapy. Other therapeutic measures.

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Psoriasis of the Lower Leg: an Industrial Complication

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MOST physicians are acquainted with the picture of psoriasis as it usually occurs on the extensor surfaces of the elbows and knees, on scalp, ears, and on the sacral region. Sharply outlined patches or plaques of grouped papules, covered with silvery scales are characteristic. [1, 2]

When, however, psoriasis is localized on the lower legs it frequently causes confusion with the disease "stasis or varicose eczema," and the true diagnosis may not be made for several months. Fifteen cases of psoriasis of the legs have been seen during the past two years and attention is directed to this condition.

Starting commonly at a site of trauma, a sharply outlined, dry, scaling patch spreads peripherally, often to involve the entire leg. Home medication with ointments frequently causes secondary eczematization and impetiginization, so that when first seen by the physician, the dry scaling character of the original condition may be masked. When such has occurred, a few days of therapy with cold boric acid compresses will reveal the true nature of the condition. Since psoriasis in this location may cause long periods of incapacity and hospitalization, it should be recognized early and treated appropriately.

Since trauma often precipitates this condition, it is frequently seen by physicians following otherwise minor bumps and bruises to the lower extremities. When such minor injuries are followed by intractable scaling eruptions, psoriasis must be kept in mind.

The diagnosis may often be confirmed by the finding of typical papules or plaques of psoriasis in other locations, especially on the scalp or ears. Pitting of the nails is common and should be searched for in all suspicious cases.[5]

Textbooks describe psoriasis as a non-pruritic disease.[4] When, however, it occurs on the legs (or in the genitocrural region) it is usually associated with distressing itching, and hemorrhagic crusts, and linear scratch marks are commonly found on the initial examination of the patient. A typical case report follows:

Patient H. B. (Figs. 1 and 2) had been totally incapacitated at home, both with and without medical care for a period of nine months. She stated that the eruption had started as a small red, dry, scaling patch about the ankle following bumping the ankle against a piece of furniture. She had applied various salves, but the rash had spread. Her leg became swollen, itchy, and moist.

On examination the right leg was diffusely erythematous with thick, silvery scales. The instep was moist and eczematized. The dermatitis was sharply circumscribed both about the toes and the foot and about the knee. The hair-line of the scalp, the ears, and the elbows showed grouped red papules covered with silvery scales.

The patient was advised to apply cold boric acid compresses several times daily, and subsequently, crude coal tar paste was applied once daily and ultra-violet light was given twice weekly.[5] She showed immediate improvement and has remained well for the past 14 months.

Crude coal tar paste contains:[6]

Crude coal tar	2.0
Zinc oxide	2.0
Starch	15.0
Petrolatum, qs.	30.0

Showing Dry, Scaly Nature

Showing Sharp Outline at Periphery

Such a paste need not be removed entirely during the ultra-violet therapy, for coal tar is a photosensitizing substance,[7] and so enhances the efficacy of the light therapy.[3] While this may occasionally lead to severe burns from small amounts of ultra-violet light, or from sunlight, such reactions are worth risking in the ordinary case.

SUMMARY: Psoriasis of the lower leg is common, presents a characteristic picture, and is amenable to treatment. It should be considered in the differential diagnosis of all cases of "stasis eczema." It frequently is seen in industrial patients following trauma to the lower extremities.

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Occupational Medicine Congress in Buenos Aires

THE UNION AMERICANA DE MEDICINA DEL TRABAJO (American Union of Occupational Medicine) is an exclusively scientific entity, formed by the specialized medical societies, and colleagues, of 17 American Republics. The UNION, of which PROFESSOR DR. JOSE PEDRO REGGI is General Director, is sponsoring the First American Congress on Occupational Medicine which is being held in Buenos Aires in December, 1949.

The Official Subjects of the Congress are as follows:

I. Absenteeism.
II. Salubrity and Insalubrity in Industry: (a) Medical Aspects; (b) Technical Aspects.
III. Tuberculosis and Work.
IV. Typification of Medical Services in Plants.
V. Protection Equipment of the Worker in Different Industries.
VI. Simulation; Psychoneuroses; Sinistrosis—Medicolegal Importance.
VII. Rehabilitation of the Disabled.
VIII. Pathology of Oil Men.
IX. Function of the Physician Specialized in Modern Work Legislation.
X. Importance of Dentistry in Industrial Medicine.
XI. Professional Selection and Orientation as the Base of a Policy in the Increase of Production.
XII. Professional Blood Disorders.
XIII. Atmosphere in Heavy Industries and Underground Mines.
XIV. Lumbosciatica and Intervertebrate Disk Disorders.
XV. Pneumoconiosis.
XVI. Pathology of Rural Workers.

THE Sections of the Congress and the subjects to be studied under each are:

Section 1. Physiology of Human Labor.

Working in altitude; in hot, cold, damp, underground and aquatic atmospheres.

Chronic physical fatigue. Surmenage.

Ideal conditions of lighting and ventilating; temperature; dampness.

Section 2. Labor Pathology.

Professional diseases.

Professional intoxications.

Section 3. Labor Traumatology.

Causes and prevention of labor accidents; treatment of injured workers.

Re-education, re-adaptation and rehabilitation of injured workers.

Section 4. Professional Selection and Orientation.

Practical methods for professional selection.

Criteria for professional orientation.

Orientation and control of apprenticeship.

Section 5. Medicolegal Aspects of Labor.

Labor legislation; physician as expert.

Incapacity evaluation standards.

Simulation; sinistrosis; psychoneurosis; modern concepts.

Section 6. Aviation Medicine.

Personnel selection and guidance.

Aviator pathology; means of increasing physical endurance in different flying conditions; selection and training of parachutists.

Section 7. Naval and Military Medicine.

Naval and military health orientation and organization.

Personnel selection for submarines and tanks.

Selection and training of attack and invasion forces.

Section 8. Medico-social Task in Favor of Workers.

Medical services organization in industry.

Importance of social factors.

Industrial canteens; factors for labor welfare; care of workers; worker physical culture; universities and schools for workers.

Section 9. Dentistry and Industrial Medicine.

THE UNION AMERICANA DE MEDICINA DEL TRABAJO has an official publication, *Medicina del Deporte y del Trabajo* ("Sport and Occupational Medicine"), which is printed in Spanish, Portuguese and English. The editors will welcome articles submitted by physicians in this country. Such articles may be sent to PROFESSOR DR. JOSE PEDRO REGGI, Arenales 981, Buenos Aires.

An Antihistaminic Analgesic Preparation in the Therapy of Colds
—A Preliminary Report—

WILLIAM F. P. PHILLIPS, M.D., and WILLIAM I. FISHBEIN, M.D.,
Chicago

ALTHOUGH colds have long been the subject of intensive study,[1] until the investigations of Brewster[2] and Gordon[3] were conducted satisfactory therapeutic results had not been attained. While it is generally accepted that the common cold is an epidemic virus infection of the upper respiratory tract, it has been demonstrated that the nasal secretions of individuals with colds contain a greater concentration of histamine or histaminic substances than the nasal secretions of persons with allergic rhinitis.[4,5] Furthermore, the spraying of histamine on the nasal mucosa of nonallergic individuals produces similar symptoms to those encountered in the early phases of the common cold.[3] Brewster,[2] Gordon[3] and Murray[6] have conducted clinical studies using antihistaminic drugs in an effort to abort and relieve the symptoms of colds. Their conclusions, in general, were that, if given early, the antihistaminic drugs may abort colds and in the greater majority of cases reduce the duration and the severity of the symptoms.

A study was conducted in an industrial plant* to determine the efficacy of a compound** containing an antihistaminic drug, chlorothen citrate,*** 25 mg., acetophenetidin, 320 mg., and caffeine, 32 mg. The acetophenetidin and caffeine are present for analgetic and antipyretic action. The caffeine serves also, by its stimulant action, to counteract the sedative effect that some individuals experience with antihistaminic administration.

Method of Study

INSTRUCTIONS were issued to the employees to report to the physician's office of the plant at the first sign of a cold. The employees were divided into two groups. Those with names beginning with the letters "A" to "K" were given the compound while the remainder were given aspirin in an identically-appearing tablet. Records were kept showing the date of onset of first symptoms, the time the medication was first administered, and the duration of the cold. A record was also made of such symptoms as fever, cough, malaise, sore throat, diarrhea, vomiting, and the amount and character of the nasal discharge. If the patients continued working they were instructed to report at the physician's office daily for observation. If they remained at home because of the cold they were instructed to report at the physician's office upon their return to work. Daily observations were therefore possible in the great majority of instances so that an accurate estimate could be made of the results of therapy. To date observations have been made on 221 patients; of these 121 received the compound and 100 aspirin.

Dosage

EACH patient received oral administration initially of one tablet of the compound (25 mg. of chlorothen citrate, 320 mg. of acetophenetidin, and 32 mg. of caffeine) followed by one tablet every three hours. Treatment was continued for a minimum of 48 hours. Those patients who were given aspirin followed the same schedule.

Results

OF THOSE receiving the compound 29 discontinued therapy too soon to estimate its effectiveness, while 26 of those receiving aspirin stopped taking the medication within 12 hours. Observations, therefore, are reported on 92 who continued taking the compound and 74 aspirin. The average duration of the colds in those taking the compound was 2.7 days and in those taking the aspirin 5.3 days. No patient remained under observation longer than seven days. However, it is of interest to note that in the patients receiving aspirin 19, or 25%, still had symptoms on the seventh day of the observation period while this was true in only three instances or 3% of those receiving the compound. It was also noted that the earlier the compound was administered the more effective were the results. With the aspirin such benefits as were attained were not affected by the time at which the drug was administered. Nineteen of the persons receiving the compound had no evidences of the infection after 24 hours. There was no evidence of the aborting of the cold in any of those receiving aspirin.

Reactions

CHLOROTHEN citrate, the antihistaminic contained in the compound, has negligible side effects and a minimum of toxicity. In the present study, this low toxicity was demonstrated by the fact that only two patients discontinued the use of the drug because of reactions manifested by light-headedness and dizziness. It is quite possible that these reactions were due to the acetophenetidin. Ten of those taking the aspirin discontinued treatment because of gastro-intestinal disturbances and dizziness.

Summary

IN 92 persons observed for an adequate period of time who were treated with a compound antihistaminic analgesic preparation, the average duration of colds was 2.7 days as compared

* Bastian Blessing Company, 4201 West Peterson Avenue, Chicago, Illinois.

** Caubren Compound, manufactured by Whittier Laboratories, Division Nutrition Research Laboratories, Chicago, Illinois.

*** N, N-Dimethyl-(2-pyridyl)-N-(5-chloro-2-thenyl)-ethylenediamine citrate.

with an average duration of 5.3 in 74 treated with aspirin.

2. Early administration of the compound either aborted the cold or lessened its duration and the severity of the symptoms.

3. While aspirin may give some symptomatic relief, it did not shorten the course of the cold, nor in any case did it abort the infection.

4. The compound may be administered with safety within the dosage levels prescribed because of the low incidence of toxic effects.

Conclusion

THIS compound is an effective agent in the therapy of the common cold, aborting the infection when administered early, abating the symptoms and shortening the duration when administered later.

Because of a low incidence of common cold during the period of this study, patients did not appear in the large numbers anticipated and this study is being continued.

(2260 Devon Ave., Chicago 45.)

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Dr. Leggo's "Five-Book Shelf"

DR. CHRISTOPHER LEGGO, Medical Director, California and Hawaiian Sugar Refining Corporation, Ltd., Crockett, California, calls this his "Five-Book Shelf." It has seven books, but the first and the last are "bookends." The following comments are his:

BOOKEND—THE HUMAN MIND, by Menninger (Knopf —$5.00—517 Pages). This is essentially a textbook, written for laymen. You cannot read it fast—but if you plod through it, it will give you a pretty sound fundamental idea of the dynamics involved in the mind. It will also make the other books to follow more understandable, as you will become familiar with terms which you will encounter frequently. If your time for and/or interest in reading should be limited, you might skip this one. Like the primer coat on a painting job, however, the other layers will stick better if you apply yourself to this one first.

PSYCHOTHERAPY IN MEDICAL PRACTICE, by Maurice Levine, M.D. (The MacMillan Company—$4.50—306 Pages). This book is recommended only because of Chapters 1, "Common Misconceptions"; 9, "Sex and Marriage"; 10, "Basic Attitudes Toward Children"; and 12, "Normality and Maturity." It is readable and you can lend it to patients or to your fellow employees, and leave it around the house, hoping the rest of the family will pick it up.

PEACE OF MIND, by Joshua Loth Liebman (Simon and Schuster—$2.50—203 Pages). This best-seller will continue to be sold and read long after the current competition in fiction has been forgotten. It is so thoroughly impregnated with pure wisdom and true humility that some of it is bound to stick.

OUR INNER CONFLICTS, by Dr. Karen Horney (W. W. Norton Company—$3.50—250 Pages). This book is deep and will require slow, careful reading. It is, however, aimed to help *you*, and if it does not do so, it might be an indication that you really do need help.

THERAPY THROUGH INTERVIEW, by Stanley G. Law, M.D. (McGraw-Hill Publishing Company—$4.50 —313 Pages). You will sit up at night to finish this one. It graphically portrays how much lies under the superficial crust of the apparent personality. It will help you in your interviews. Do not attempt to apply the therapy—it is therapy enough to give a sympathetic, objective interview and to have ceased to be a judge of what you hear. If this book helps you to accept people as they are, instead of how you think they should be, it will result in your being accepted by people.

THE GOVERNING OF MEN, by Alexander H. Leighton, M.D. (Princeton University Press—$4.00—367 Pages). For the first three-quarters of this book, you will pray to be told why you are reading it. But by the time you have finished the final quarter, you will pray that it will be read by every administrator, executive, supervisor, or official in every industry, as well as in every government agency—whether Federal, state or local. Put your name and address on the flyleaf of this one, and hope you have it returned after you pass it on, as you will want to go back and pull the handle on this Industrial Relations jackpot more than once. The style is classic, the condensation of material is amazing, and, for a book packing such a tremendous sociological wallop, it is most readable.

BOOKEND—AN AMERICAN DILEMMA, by Myrdahl (Harper's—Two Volumes—$7.50—1,483 Pages). Exhaustive sociological research on a subject which you have been able to size up previously with one sentence or settle with a race riot. Many chapters of this you can afford to skip through or skip. The subject you cannot ignore. This book will make you think and feel differently. It is time we explored rather thoughtfully what the sociologist may have to offer us.

"WINDS, BLOW GENTLY HERE . . . ."

CLARENCE OLDS SAPPINGTON, M.D., DR. P.H.

THE PRESS wire services reporting the news of his death had it that he was a "doctor of philosophy." Such was their interpretation of the "Dr. P.H." which always followed the "M.D." as part of his signature. He would smile at this if he were here; he wasn't an academic Ph.D., but he lived a philosophy of tolerance and understanding. His "Dr. P.H." meant "Doctor of Public Health (in Industrial Hygiene)." He earned it at Harvard School of Public Health in 1924, after two years of study. He was the first American to receive it, and at the time of his passing he was still the only American to hold it. He wasn't much given to explanations, but we always felt that he considered it the formal evidence of his consecration to a career in industrial health. His devotion to that field of work was as much a consecration of mind and heart and soul as if he had taken the vows of a holy order. The "Dr. P.H." was the insignia of his self-selected specialization.

His professional career is a matter of record. It may be read in the successive editions of "Who's Who in America" (since 1929), "American Men of Science," and many other compilations of biography; in the three books he wrote; in the work of the important committees on which he served; in the studies and surveys he made and the hundreds of reports and articles he prepared and published. It is a permanent and an honorable record. He had reached the top, and he left a place that will be hard to fill.

IT IS NOT of these things, however, that we want to write. Instead we would set down our memories of the man who was our Editor. Our association began in the deep-depression days of June, 1932. He was then with the National Safety Council, as Director of the Division of Industrial Health. His first relation with us was as consultant; he wouldn't agree to be Editor until several years later, when he had become fully convinced that our intentions were to serve rather than to exploit. But he was so deeply interested that in order to be our consultant from the start he left the Safety Council and set himself up as a consultant in industrial health. An independent journal in the field of industrial medicine had long been a dream of his, and he hoped ours would be it. That was the beginning. The end was written on Sunday, November 6. Just after breakfast, at his home, his patient heart stopped, and he was no more. They said it was "coronary thrombosis." He was 60 on September 29.

In all of our more than 17 years of working together we never saw him lose his temper. And only rarely did he show impatience. But we soon discovered that his were "still waters" running deep. In matters of importance to his work, or his beliefs, or his ideals, he could be forceful, incisive, even eloquent. One memorable occasion was a conference at which he was pressed to define his "editorial policy." We have often regretted that there wasn't a transcript of his response; no recollection could recapture the spell of inspiration that spoke from his heart. He told us that an editorship is not an honor, or a privilege. It is a trust, almost a sacred responsibility. And an editorial policy is not capable of definition. He quoted Archibald MacLeish: "A poem should not mean, but be." So, an editorial policy is, or it isn't. Where it is, it embodies many things. It is a practical composite of knowledge, experience, attitudes, ideals; it is sensitive, even to nuances; though it may seem of necessity a perpetual compromise, it is tolerant, truthful, unafraid. Like a symphony, it is complete in the blending of all its tones. But break it up into numbered sentences, cast it in a mold of rules, and it becomes pragmatic handcuffs. Then he read us the little paragraph which appears at the head of the contents page in each issue, and mentioned, with pride, that another journal, evaluating the several publications in ours and related fields, had said of INDUSTRIAL MEDICINE

that its "editorial policy" was "strong and vigorous." Thus we learned from him, and were inspired by him. Always we could be sure that he would never dodge an issue. Mild-mannered as he was, to scratch him on a question of principle was to tear one's nails on the solid steel of right.

THE LAST time we saw him alive was on the Monday following the A.A.I.P.&S. Directors' meeting of October 23. Dick Walmer had been with us at lunch, and later there followed one of those afternoons at our office which were incidents of his editorship, but were so much more to us. We prized those hours. To sit with him, in contact with his thoughts, his experiences, his breadth of vision, his fine idealism, was an uplift. His was a sensitive approach to life, and his concept of industrial medicine and industrial hygiene was sensitively human. Like the good general practitioner, he knew much, but understood more. He never preached, and he shrank from any dictum of "ought" and "should," yet he would leave us with the feeling on our part that somehow he had elicited the best we had in ourselves and sharpened it up a bit for better use. That day was like the others. We talked of our work, our interests, our people, our plans. The U.S. Public Health Bulletin No. 306, "Air Pollution in Donora," was at hand, and he remarked that the industrial hygienists, having been so long absorbed in disposing of the agencies of air pollution by merely exhausting them outside the work place, must now "raise their sights." He talked a while of the Ramazzini Rendezvous he had attended in September, and commented again on the remarkable excellence of Rutherford Johnstone's Ramazzini Oration. And we completed arrangements for him to attend the Industrial Hygiene Foundation meeting just ahead. Then he went away—out of our lives, but not out of our hearts.

Outstanding among our most cherished recollections is his characteristic of not indulging in personalities. Never did we hear him disparage any person; neither in word or act was he unkind to anyone. He could be critical, but not of people, and even in his comments on things there was no sting. He tried to be constructive, and helpful. To us he was both in a superlative degree; his wisdom was profound, and his advice was good. We owe him much, for these, and as an example of fortitude in the discouraging years when the going was rough. There were many times when we marveled at his calm. Knowing, as we did, the deep strength of his feelings, and appreciating how sensitive he was, we often thought he was inhibiting too much. But that was his way. And a nice way it was.

THEN CAME the time when his habit of suppression had its supreme test. Five years ago his only son, Jack, was killed in the Battle of the Bulge. His comment when he read the telegram was: "Now we must work harder." That was all. He carried his sorrow himself. The little bar of the Purple Heart which he wore on his lapel gave sole token of his loss. It was still there when they bore him away.

Was his emotional rein too tight? Pent up inside him, did the burden wear him down? Two years ago he went to the hospital, and he was there many weeks. Then he seemed better, almost his usual self. But there was a difference, and his friends were gravely concerned. Nevertheless he took on more responsibility. Among other things, he became executive officer of the Committee on Workmen's Compensation of the A.M.A. Council on Industrial Health. In April, at Detroit, he had been elected to a two-year term as Director of the American Association of Industrial Physicians and Surgeons. And he accentuated his interest in lectures. He had one scheduled for the evening of November 9. With all of this, he still found time for the music which was his avocation, and for extensive reading. During his long hospital sojourn he had learned how to read for relaxation, and while he did much of this he still kept up on the serious side. He had early developed the lawyer-like faculty of rapid reading, and he could almost scan a page and yet absorb its content. To the last he kept busy; he couldn't have done otherwise. And to the last he was the same smiling, thoughtful, self-reliant, capable "Doc," a tower of strength to all of us who needed him.

Just a short time ago he was certified as a specialist by the new American Board of Preventive Medicine and Public Health. His certificate came too late for him to see it.

He had often said he didn't want flowers, but his friends were not to be denied; he rested in a bank of fresh beauty. And on Monday and Tuesday a stream of those who knew him came and paused in silence. His funeral, Wednesday afternoon, November 9, was as he would have wished it. Two of his favorite hymns, "Faith of Our Fathers" and "Going Home," some of the New Testament verses he often read, a little tribute to "Dr. Pilgrim," a prayer . . . .

AND SO, for the fine, human, lovable man he was, we loved him. And knowing him as we did, we like to imagine him sleeping on a high hill with a far view, while above him there's a little stone with these words on it: "Winds, blow gently here . . . ."

ASSOCIATION NEWS

Directors' Meeting

THE BOARD OF DIRECTORS of the A.A.I.P.&S. met in the Association offices on Sunday, October 23, 1949, from 10:00 A.M. to 3:00 P.M., with DR. ALFRED H. WHITTAKER presiding, and 15 of the 18 officers and directors in attendance.

The Board of Examiners for examining prospective candidates for Fellowship, as created by the change in by-laws at the annual meeting on April 7, 1949, was appointed by PRESIDENT WHITTAKER and confirmed by the Board of Directors as follows: DR. E. A. IRVIN, Detroit, Chairman, DR. T. LYLE HAZLETT, Pittsburgh, and DR. McIVER WOODY, New York City. Thereupon 12 Fellowship applications were referred to the Board of Examiners for their examination and recommendation. Thirty-three new regular members and 23 associate members were elected, as recommended by DR. NEWTON E. LEYDA, Chairman of the Membership Committee. Honorary memberships were voted for DR. EUGENE F. MESCHTER, Stamford, Connecticut, DR. MARTIN DONDANVILLE, Moline, Illinois, DR. EDWARD QUICK, Milwaukee, Wisconsin, and DR. WALTER HARDY, Ardmore, Oklahoma. Resolutions were adopted to memorialize DR. ANDREW HARVEY and DR. THEODORE L. STORY, recently deceased and honored members of the Association.

The acceptance of PRESIDENT ALFRED H. WHITTAKER as ex-officio member of the Council on Industrial Health of the American Medical Association was approved by the Board.

DR. FREDERICK W. SLOBE gave a report on the AMERICAN FOUNDATION OF OCCUPATIONAL HEALTH, in part as follows: "DR. HOWARD JOHNSTON, our Fellow at the University of Pittsburgh Medical School, appears to be making satisfactory progress. We receive periodic reports from him and some of these have been published both in INDUSTRIAL MEDICINE and in our 'Association News.'"

DR. CARLETON has sent the Directors and Officers a report as to developments pertaining to the Fund Raising Committee. His plan relative to contacting management has much merit and should be productive of good results. It is realized that this is a long-range plan, and that a dramatic effect can not be expected without full-time personnel to engage in this activity.

District Counsellor reports were received from DR. MELVIN N. NEWQUIST—"A"; DR. CHARLES B. STACY—"B"; DR. V. C. BAIRD—"E"; and DR. FRANK R. GRIFFIN—"G." DRS. E. A. IRVIN, H. GLENN GARDINER, F. E. POOLE and J. W. SHILLING reported for Districts "C," "D" and "F," respectively, and DR. HAROLD M. HARRISON, of Toronto, supplemented the report of District "G." (See page 3 for the territorial organization of the Counsellor Districts.) Among the highlights of these reports were the extracts which follow under the heading "Reports."

As head of the Certification Committee, DR. SLOBE reported the following: "At the joint session of the Council on Medical Education and Hospitals and the Council on Industrial Health of the A.M.A., held in Atlantic City last summer, there was a general discussion relative to the Graduate Training Program in Industrial Medicine. Although this meeting resulted in some clarification of the problem and in improved mutual understanding, no solution of the numerous problems developed. Another joint meeting of this kind will be held within the next six weeks. It appears to be the present feeling of the Council on Medical Education that the period of in-plant training should be coordinated in some way with medical school and hospital affiliation in order for such training to have the same accredited status as the comparable period of training in graduate training preparatory to certification by other Boards. It would seem that this is a logical view if our proposed Board is to have the same status as the other Boards. The present graduate training facilities in existence appear to be more than adequate to supply the existing demand. It is probable that the existing demand may not increase considerably until such time as Certification appears to be imminent. Another difficulty which needs to be surmounted is the lack of uniformity and agreement in the existing graduate training centers as to the curriculum and duration of training courses. The problem relative to in-plant training including schedules, length of time, suitable approval of plant medical departments, and affiliation with medical schools and hospitals needs considerable clarification and study . . . It is our feeling that it would be inadvisable to apply for Certification at this time until the above problems are solved. It is realized that there are some who are justifiably impatient with the delay in Certification and might consider it advisable to proceed to form our own Board independently. This, of course, could be done, but such a Board would not have a standing comparable to the other Boards, hence it would appear to be an inadvisable step to take at this time."

DR. H. GLENN GARDINER, Chairman of the Program Committee for the 1950 Convention, reported at length on program plans, which were heartily approved by the Board. DR. R. M. GRAHAM, Chairman of the Banquet Committee, gave a brief report.

DR. WHITTAKER reported that the History Committee had reached a point in the development of the Association's history where it was now desirable to engage the services of a professional historian. The Board authorized the employment of such a person, the services rendered and the progress made in preparing this history to be evaluated at the Directors' meeting in April, 1950.

The Board voted that the President appoint a representative of the Association to the Safety Code Correlating Committee of the American Standards Association, and DR. JAMES H. STERNER, Rochester, New York, was so appointed by DR. WHITTAKER.

The Supplementary report of the Council on Industrial Health, A.M.A. was reviewed, and upon approval of Release No. 173 of the National Education Campaign, A.M.A., the Board instructed that a letter be written indicating wholehearted support of publicity concerning the apparent persecution of medical societies by government agencies.

DR. AND MRS. E. C. HOLMBLAD spent the month of November visiting the West Coast and Hawaii. DR. HOLMBLAD'S schedule included a dinner meeting with members in the Seattle area on November 1, and a dinner meeting with officers and members of the WESTERN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS in San Francisco on November 3, to which 100 invitations were issued. Upon arrival

in Hawaii, he addressed the Rotary Club of Honolulu on Tuesday, November 8, and the doctors and nurses of Hawaii on November 13. Later he attended the Sixth Annual Meeting of the A.A.I.P.&S. component society, the TERRITORIAL ASSOCIATION OF PLANTATION PHYSICIANS, at Puunene, Maui, giving three papers, "Adequate X-Ray Study after Injury" and "Rehabilitation and Maintenance of Function after Fractures" on November 17, and "Art of Examining, Diagnosing and Treating the Industrial Patient" on November 18. Side trips, including hospital visits, were made to several other island places. Returning to the States, during the week of November 21 to 27 DR. HOLMBLAD met with the officers and members of the WESTERN ASSOCIATION in the Los Angeles area.

Reports

DR. CHARLES B. STACY, for District "B," said, in part: "In the past few months there has been a considerable change in the entire hospital, office, and home care program for the United Mine Workers. Formerly, practically all hospitalization was paid for under payroll deductions from the miner himself. In the period of June, July, and August this was changed throughout the entire coal fields, and all hospitalization was paid for on a per patient basis by the UMWA Welfare and Retirement Fund which is financed by a royalty of 20 cents per ton of coal. Under this new program there was such an increase in the hospital work that every institution in the coal fields was physically embarrassed for lack of space to handle patients. This program is now suspended owing to the strike in the coal fields. It undoubtedly will be resumed in the near future but, we believe, with certain limitations of service . . . I also believe that the Welfare and Retirement organization could profitably ask that every physician participating in their program be a member of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, and that every physician be qualified by good training for the duties he assumes."

DR. VALLIANT C. BAIRD, reporting for District "E," called attention to two fine programs in his area. The first was that of the Second Gulf Coast Regional Conference on Industrial Health, at Houston, Texas, October 6-7, as follows:

October 6: HARDY A. KEMP, M.D., Baylor University College of Medicine, presiding:

"Industrial Health Programs Pay Dividends"—MANFRED BOWDITCH, Director of Health and Safety, Lead Industries Association, New York.

"Teamwork in the Solution of Industrial Medical Problems"—ALLAN D. BRANDT, Sc.D., Bethlehem Steel Co., Bethlehem, Wilmington, Delaware.

"Control of Environmental Industrial Health Hazards"—ALLAN D. BRANDT, Sc.D., Bethlehem Steel Co., Bethlehem, Pennsylvania.

"Industrial Health in an Atomic Era"—Banquet speaker, DR. JAMES H. STERNER, Eastman Kodak Company, Rochester, New York.

October 7: CARL A. NAU, M.D., University of Texas, presiding:

"The Employer's Liability for Occupational Diseases."

"Medical and Safety Aspects of Some Heavy Metals."

"The Role of the Nurse in the Industrial Health Program"—RUTH F. KAHL, R.N.,

"Safe Use of Common Chemicals in the Plant and in the Home"—D. D. IRISH, M.D., The Dow Chemical Co., Midland, Michigan.

"Management's Responsibility for Pre-Paid Medical and Hospital Plans."

"Public Health Aspects of Atmospheric Pollution"—GEORGE D. CLAYTON, Industrial Hygiene Division, U.S.P.H.S., Washington, D. C.

The second was that of the Section on Industrial Medicine and Surgery of the Southern Medical Association, at Cincinnati, November 17. This was prepared by DR. CARL A. NAU, and featured the following:

"A New Concept for Periodic Examinations of Field Employees of Petroleum Industries"—KIEFFER DAVIS, M.D., Medical Director, Phillips Petroleum Company, Bartlesville, Oklahoma.

"Variables in Industrial Absenteeism"—R. LOMAX WELLS, M.D., Medical Director, Chesapeake and Potomac Telephone Companies, Washington, D. C.

"Hazards Associated with Chemical Manufacturing"—J. E. WILLIAMS, M.D., Medical Director, Tennessee Eastman Corporation, Kingsport, Tennessee.

"Present and Potential Occupational Carcinogens and Carcinogenic Operations in Modern Industry"—W. C. HUEPER, M.D., Cancer Control Branch, U. S. Public Health Service, Bethesda 14, Maryland.

"Management of Diseases of the Heart in the Steel Industry"—WM. H. RICE, M.D., Chief Surgeon, Armco Steel Corporation, Ashland, Kentucky.

"Injuries of the Lower Extremities and Their Significance in Industry"—TRUMAN G. BLOCKER, M.D., and CLIFFORD SNYDER, M.D., University of Texas School of Medicine, Galveston, Texas.

DR. FRANK R. GRIFFIN, for District "G," said, in part: "The groups of industrial physicians in the cities of Toronto and Montreal have been quite active. The Section on Industrial Medicine of the Toronto Academy of Medicine held six sectional meetings during the last fall and winter season. The Section on Industrial Medicine of the Canadian Medical Association, under the able chairmanship of DR. R. B. ROBSON, is now making plans for a program to be presented in Halifax, Nova Scotia. The most outstanding event in our field was held in Quebec City from September 29 to October 1. This was a most enthusiastic Conference and was attended by 85 industrial physicians. The Conference was held under the auspices of the Industrial Physicians and Surgeons of the province of Quebec, cooperating with the Industrial Physicians and Surgeons of Ontario. DR. E. A. IRVIN, of Detroit, Vice-President of our Association, was an able representative. At the Conference Dinner, held in the Chateau Frontenac, he spoke of the Association, briefly outlined its activities and the quality of its ever-extending membership, and stressed the importance of all industrial physicians becoming members. We were proud of DR. IRVIN'S excellent presentation. Many of the guests present at this dinner spoke and understood the French language only. DR. IRVIN rose to the occasion, speaking so convincingly in both English and French that all present understood him. The first fall meeting of the Section on Industrial Medicine, Academy of Medicine, Toronto, was a dinner meeting held at the King Edward Hotel on October 13. This is an annual event at which the Industrial Nurses of Ontario are invited as guests of the Section. Also invited are prominent business executives who are interested in our specialty. Our Association was ably represented by DR. EARL LUTZ, of General Motors Corporation, Detroit. One hundred and forty attended. The Section was fortunate in having SIR JACK DRUMMOND, Director of Research of the Boots Pure Drug Company, of Nottingham, England, as guest speaker. SIR JACK DRUMMOND is a Specialist in Nutrition. He was Chief Adviser to the Minister of Food for Britain during the war, and is the author of several textbooks. The subject of his address was 'Nutrition Problems in Britain.' He stated that, in spite of severe rationing of food, the health of the British industrial worker was never better than at the present time. His speech was well received and promoted many fine comments."

DR. EARLE A. IRVIN reported briefly on his trip to Quebec: "On September 29, 1949, a trip was made to Quebec City to attend the Industrial Medical Conference which was presented by the Industrial Medical Association of the Province of Quebec, in collaboration with the Section on Industrial Medicine of the Ontario Medical Association. This was the fourth conference of this type presented by these two associations. The program was well prepared and well presented. The interest displayed by those in attendance was excellent. The subjects covered were well selected, including 'Injuries of the Hand,' 'Skin Diseases,' 'Diabetics,' 'Selection and Training of Industrial Nurses,' 'Alcoholism in Industry,' 'Occupational Diseases of the Lungs,' 'Psychosomatic Problems,' 'Rehabilitation,' and 'The Scope of Industrial Health Service.' Throughout the entire Conference, it was interesting to note the emphasis placed on human relations. On the evening of September 29, I attended a banquet, substituting for DR. WHITTAKER, and had occasion to make a few remarks. After commenting on the excellent program, I briefly reviewed the history of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS and encouraged all present to make plans to attend our Annual Meeting in Chicago, in April, 1950."

DR. CARL T. OLSON, Chairman of the Workmen's Compensation and Insurance Committee, presented a report on the 35th annual convention of the International Association of Accident Boards and Commissions held at St. Louis, October 2-6:

"The 35th Annual Meeting of the International Association of Industrial Accident Boards and Commissions (hereinafter referred to as I.A.I.A.B.C.) was held at the Jefferson Hotel, St. Louis, October 2-6, 1949.

"The I.A.I.A.B.C. has 55 active members including 40 States, three Territories and three Federal bureaus. In addition there are 32 associate members. Mississippi and Montana were represented for the first time at this session. Mississippi was the last state to enact a Workmen's Compensation law which became effective January 1, 1949.

"On October 3, DR. D. J. GALBRAITH, Vice-Chairman, Ontario Workmen's Compensation Board, presented 'The Report of the Medical Committee.' This report culminated a continuation study begun last year at New York on the general problem of administrative ways and means to provide prompt, appropriate and adequate medical attention to assure minimum disability and maximum physical rehabilitation. Attention is especially directed to the following recommendations:

1. No case should be closed or final award made until competent medical opinion indicates that the maximum of reduction of permanent disability has been achieved and that all possible in the way of rehabilitation has been attained.

2. In the case of the injured workman, medical aid should not be restricted by legal limitations and costs; disability resulting from industrial accident or disease should be the responsibility of industry so long as it continues, and medical aid should be furnished on this basis.

3. As regards choice of medical attendant, the committee feels that *free* initial choice of physician should be permitted in conference with a skilled, unbiased medical officer of the Workmen's Compensation Commission who should, by consultation and reference, see that the best medical and surgical care is rendered. In order properly to accomplish this, the law should place control of medical aid in the compensation authority and free initial choice allowed by ruling of the commission.

4. Change of hospitals to provide more adequate facilities and more advanced techniques should be permitted.

5. As regards convalescent or postoperative care of the seriously injured—in other words, the popular conception of rehabilitation—the Committee believes that this phase of treatment does not necessarily involve a change or displacement of the attending surgeon but rather only really involves the transition to physio- and occupational therapy from the no longer necessary active nursing care. The surgeon still directs, perhaps with the aid of a colleague skilled in physical medicine; but he should remain in charge until the minimum of physical impairment obtains.

6. Every large or teaching hospital should have its own rehabilitation center. There should be regional centers to service the cases from the smaller cities, towns and rural areas as referred by physicians. Rehabilitation facilities should be available to all, but in order to assure proper care and attention to industrial injuries, each individual commission should have a rehabilitation officer or department whose duties it would be to provide the necessary contact between patient, Commission and rehabilitation center. Supervision of rehabilitation endeavor is essential and should rest with the Compensation authority.

7. Following convalescent care and rehabilitation, job placement should be under the supervision of the surgeon but supervised and assisted by the Commission by direct authority of the compensation act.

8. The committee recognizes that there has not been in a large proportion of cases a spirit of cooperation between the workmen's compensation administrators and the medical profession. It believes that to obtain the necessary cooperative effort, which alone can form a basis for any complete scheme of good medical care, there must be a radical change in attitude of many commissions and most physicians. To accomplish this, the committee recommends the following steps:

(a) Every administrative body should have competent medical advisers, preferably as a part of their staff.

(b) Every surgeon accepting responsibility for the care of claimants should be encouraged to discuss his problems with the commissions and medical and surgical specialists.

(c) Every commission medical officer or adviser should be encouraged to become a member and part of organized medicine, attend meetings and be free with his explanation of Commission policy and functions.

(d) Every local medical society and association should be encouraged to appoint a compensation committee whose function would be to bring to the Commission the problems of the profession for discussion.

(e) Close contact should be established between the compensation authorities and the state medical associations, problems discussed, changes in policy or plans explained and arranged, and an attitude of mutual assistance engendered.

(f) Medical schools should give wider training in compensation work, i.e., the privileges, responsibilities, and functions of the physician with relation

to the acts should be explained more thoroughly.

(g) More universities should give more stress to the teaching of traumatic surgery and industrial medicine.

(h) Post-graduate education should be encouraged by *Commission-sponsored* seminars, meetings, bulletins, etc., whereby advanced medical thinking can be brought more quickly to the general practitioners.

(i) With insistence upon skilled treatment, proper appreciation and remuneration, honesty and frankness on the part of the commissioners, the support, assistance and cooperation of the insurance carriers, the employers and organized labor can be induced, and the barrier of controversy removed.

(j) Cooperation, not controversy, must be the basis of advanced medical care.

"The report was unanimously adopted by the I.A.I.A.B.C.

"Monday evening, October 3, was devoted to the annual Banquet. The speaker was HENRY D. SAYER, General Manager, Compensation Insurance Rating Board of New York. He reviewed his own 35 years of experience with workmen's compensation. He opened up the field of employer-paid coverage for non-occupational disability for consideration by the Commissioners on the premise that its administration would either be an added function of the present Commission system or that experience based on the administration of the workmen's compensation would be utilized in organizing the administration of our ever-increasing industrial insurance. He made a plea that each state, rather than the Federal government, retain administration and supervision not only on workmen's compensation but also of the newer types of employee coverages.

"On Tuesday panel discussion on 'Trauma and Arthritis' was led by DR. PAUL HAGEMANN and included DR. OLIVER ABEL, DR. ROBERT O'BRIEN, DR. FRED REYNOLDS and DR. CHARLES STONE, all of St. Louis. The panel discussed the relation of single and multiple or repeated trauma as causative factors in the initiation or the aggravation of arthritis. Most agreed that single trauma does not initiate arthritis unless there has been definite intra-articular injury such as a fracture extending into the joint. Low back pain came up for consideration, with the panel divided as to the role of the intervertebral disc. The statement was made and went unchallenged that 96% of all the back cases showing up at the dispensary or doctor's office are self limited to two to three weeks and will get well whether any or no treatment is rendered. In industry, some types of treatment must be given to satisfy the worker, but its effect according to the speaker is mostly psychological. It is the 4% of back cases which do not get well during the first three weeks which present problems. It is among these cases that the role of the intervertebral disc is so difficult to evaluate. Most of the panel agreed that industrial trauma could not initiate rheumatoid arthritis but could accelerate its program.

"A panel discussion led by DR. ROBERT MOORE, Dean of Washington School of Medicine, and including DRS. JOHN P. WYATT, THOMAS M. MARTIN, WILLIAM E. LEIGHTON and LOUIS JONSTAD was held on the subject 'Trauma and Malignancy.' An attempt was made to shed some light on the following questions: (1) Can a single trauma cause malignancy? (2) Can multiple or repeated trauma cause malignancy? (3) Can trauma convert a benign lesion into malignancy? (4) Can trauma accelerate the spread of pre-existing malignancies? Certain postulates were laid down as to whether industrial trauma could be held accountable for malignancies such as that the relationship between the claimed trauma and the malignancy must be reasonable and that the pathological examination of the malignant tissue must show evidence of having arisen in the area of the alleged trauma, e.g., metastatic malignancies must be carefully ruled out. The panel was agreed that a benign growth could be transformed into a malignancy by trauma and that trauma could accelerate the spread of pre-existing malignancy. Experimental evidence was cited to show that trauma could be the deciding factor as to the location of the malignancy, viz., when rabbit ears are rubbed with carcinogenic substances and then punched out, the tumors occur on the edges of the punched out areas.

"On Tuesday afternoon, October 4, DR. CHAS. L. DUNHAM, Assistant Chief, Medical Branch, U.S.A.-E.C., Washington, D. C., discussed the 'Medical Hazards of Atomic Energy.' He devoted most of his talk to the compensation features of A.E.C. and to the precautionary measures set up to guard all the workers for A.E.C. He stated that so far only six cases have had to be rated totally and permanently disabled, which is a remarkable record.

"ASHLEY ST. CLAIR, Counsel, Liberty Mutual Insurance Company, Boston, read a paper entitled 'Has Occupational Disease Legislation Kept Pace with the Exposure of Present-Day Industrial Diseases?' His theme was that occupational diseases should be as fully compensable as occupational injury, that the field of occupational disease is constantly changing due to new exposures and better understanding, and that occupational disease acts which name specific occupational diseases with specific awards are not in keeping with the modern philosophy that a workman should be fully protected against all the hazards of employment and should certainly be given full medical treatment and rehabilitation.

"On Wednesday, October 5, films were shown of the British Columbia Rehabilitation Center, probably one of the largest in the world. G. ATILES MOREU, Manager, Puerto Rico State Insurance Fund, described, with a paper and moving pictures, what is being done in his country.

"ARTHUR W. DEVINE, from Rhode Island, described the Rhode Island Curative Center at Providence. DR. HENRY KESSLER, Newark, New Jersey, was unable to be present. He was to have spoken briefly in behalf of the President's Committee on National Employ the Physically Handicapped Week, which was observed October 2-8.

"WILLIAM E. KAISER, Attorney and former member of the Illinois Industrial Commission, spoke on 'Practical Methods of Enforcing Compliance with Insurance Coverage Requirements of Workmen's Compensation Laws.' In spite of the fact that the law makes it obligatory for certain industries and businesses to cover workmen's compensation requirements either by being self insured or having commercial coverage, there are many companies which evade the law and are discovered only when some compensation case is filed against them. MR. KAISER blames insurance salesmen sometimes because they do not inform their customers as to what coverage they should have. In other cases, the employers are dishonest and deliberately evade the law. He recommended a better brand of insurance salesmanship and enlisting the aid of unions to be sure the shop is covered. From a legal standpoint he thinks that

an uncovered plant can be considered a public nuisance and, in his experience, he was always successful in getting compliance through threats of closing down the business. The law and the enforcement of it, however, are admittedly weak.

"JOSEPH L. HILL, Chairman, Michigan Workmen's Compensation Commission, gave the 'Report of Committee on Administration and Procedure.' This presentation was concerned chiefly with the reports of accident or illness filed with each board. MR. HILL gave a very enlightening paper on the history of the various report forms. The committee decided (1) the report form should be as brief as possible; (2) it should ask only for *factual material* and should eliminate all questions calling for opinion; (3) it should be concerned with the *injury* resulting from accident or occupational disease rather than the *cause* of the accident. In other words, it is the belief of the committee that proper administration of compensation benefits is the true function of Workmen's Compensation boards and that prevention of injuries and illnesses is the function of other departments. MR. HILL cited two report forms, Michigan and New York, which the Committee believes meet the requirements although it is agreed that it will be impossible to have a standard form for all states and provinces.

"In summary, the high points of the meeting included the following:

"The feeling is growing that: (a) There should be unlimited medical care, properly supervised by the Commission, furnished the worker who becomes injured or ill in the course of and as a result of his work. (b) Rehabilitation of the injured worker is necessary but the feeling has not crystallized as to how this should be administered, i.e., by state, by carriers, by regional centers, etc. Great emphasis at this meeting was placed on rehabilitation. (c) Something should be done about employment of the rehabilitated worker.

"The I.A.I.A.B.C. is tending more and more to the belief that workmen's compensation administration should be concerned only with the illness or injury after it has happened. Prevention should be left to other agencies but close cooperation should be developed with these other agencies.

"The I.A.I.A.B.C. would like to get more help and cooperation from the medical profession. Workmen's Compensation Boards would like to use medical service more freely but are not yet willing to make final judgments based on medical advice presently available."

LETTERS

"Please, Doctor"

TO THE EDITOR: Much has been said and written about the possibility that industrial physicians may, on occasion, step over a little into the field of the private practitioner. This possibility, of course, should be guarded against. But it might not be out of order to suggest contrariwise that physicians in general practice quit trying to "kid" their industrial confreres. " 'Slips' from the family doctor," as referred to in the note "Please, Doctor," in the November issue (INDUSTRIAL MEDICINE AND SURGERY, 18:11, 475) are proper enough under certain circumstances, but there are too many of the kind of which I have had four examples within the last few weeks.

The first, on the physician's prescription blank, and signed by him, read: "I have told John M—— to do no hard work." John admitted that the physician had not examined, or even questioned him, but had merely given him the note because he asked for it.

The second, also on the prescription blank and signed by the physician, said: "This woman has been under my care for many years and needs a three months' rest." Here, too, there was no examination. The fact, elicited on questioning, was that the lady had been invited to spend three months with relatives in California and wanted a leave of absence.

The third, also duly signed, set forth that "This man cannot work because of back trouble caused by his work." Again there had been no examination. Our own, conducted then and there, disclosed a Neisserian infection.

And the fourth: "This man cannot continue at his job because of endangering his health," had been asked for and given in order that the man could qualify for unemployment insurance.

To paraphrase the last sentence of the "Please, Doctor" item: 'Don't insult the industrial physician 'by implying that he is credulous enough to accept such statements.' " —MEDICAL DIRECTOR.

Magic

TO THE EDITOR: In your November number, on page 486, there was a note about the article in *Colliers* for October 22, by Bill Davidson entitled "Donora: The Case of the Poisoned Air." You overlooked something. Bill says: "In Los Angeles, for example, the oil refineries poured a total of 700,000 tons of sulphur dioxide into the air every day—as recently as last autumn." A little investigation discloses that the Los Angeles refineries, on the basis of 300 working days per year, handled an average of 251,000 tons of oil per day—also as recently as last autumn. Of course, the oil chemists are pretty good, but it would seem that Bill's figures are the magic of the pen rather than the process. However, it's a good trick if you can do it. Possibly our smart feature writers are learning from the government propagandists. Those fellows are just full of good tricks. For example, the other night we heard the Social Security Administrator, on the radio, peddling the administration's compulsory health program. He said: "I am terribly against socialized medicine. That's why I'm for national health insurance." There, Mr. Editor, is the prize *non sequitur* of the year. As for me, let me sign this —DISGUSTED.

The A. M. A. Council on Industrial Health

THE Council on Industrial Health of the American Medical Association is now composed as follows: ANTHONY J. LANZA, M.D., Chairman, New York City; LEVERETT D. BRISTOL, M.D., Harrisburg, Pennsylvania; WARREN F. DRAPER, M.D., Washington, D.C.; RAYMOND HUSSEY, M.D., Detroit; RUTHERFORD T. JOHNSTONE, M.D., Los Angeles, California; ROBERT A. KEHOE, M.D., Cincinnati; HENRY H. KESSLER, M.D., Newark, New Jersey; PAUL B. MAGNUSON, M.D., Washington, D.C.; WILLIAM A. SAWYER, M.D., Rochester, New York; CLARENCE D. SELBY, M.D., Detroit; JAMES S. SIMMONS, M.D., Boston; HAROLD A. VONACHEN, M.D., Peoria, Illinois. CARL M. PETERSON, M.D., is Secretary of the Council, and STANLEY J. SEEGER, M.D., is Chairman Emeritus. The following is adapted from the report of the Council, which is being presented at the A.M.A. Clinical Session, Washington, D.C., December 6-9, as the report appears in *The Journal of the American Medical Association* for November 5, 1949:

The Council Report

ONE of the significant events of the past year was the adoption by the House of Delegates of a program for the advancement of medicine and public health, one section of which advocated greater emphasis on industrial medicine and on accident prevention. The Council on Industrial Health has directed its principal efforts toward a practical implementation of this broad policy.

Labor and Management

PUBLIC ACCEPTANCE: Improvement in the amount and quality of industrial medicine depends fundamentally on increased public acceptance. Authorization was requested and received to set up some form of regular permanent consultation with labor and management on the assumption that wider support would occur through joint rather than single-handed effort. Several preliminary meetings with representatives of the American Federation of Labor, the Chamber of Commerce of the United States, the Congress of Industrial Organizations and the National Association of Manufacturers have uncovered strong interest. A basic plan for cooperative activity, agreeable to the representatives of these organizations, has been prepared for ratification by the Board of Trustees...

Training and Organization

PROFESSIONAL RELATIONS: As the demand for medical service in industry grows, it is important that the medical profession be prepared to meet it. Two major activities have been stressed by the Council—adequate training and professional organization. During the past two years, a member of the Council staff has been actively engaged in assessing the educational resources for industrial medicine in the United States and Canada at the undergraduate, post-graduate, residency and fellowship levels. His findings, on the whole, show commendable improvement. Several reports descriptive of the current educational picture are in the final stages of preparation.

In recent months the Council has received more inquiries from the committees on industrial health in the state and county medical societies than at any previous time. Some of these committees are newly formed, and in some instances it is a new chairman of a well established committee who is seeking to develop a more active program. All want to know how to promote industrial health. A number of outstanding industrial health conferences have been sponsored by these groups all over the country. This record of spontaneous constructive action is the most encouraging feature of the Council's program. As a result, a census of all committees on industrial health is being taken which, when completed, will provide the means for supplying these committees with a series of recommended practices based on the best and most successful current programs.

In the same way, the industrial medical interests of specialty organizations will be emphasized in order that the requirements of industry may be better understood by the major consulting specialty groups—surgery, dermatology, ophthalmology and internal medicine.

To promote better integration within the American Medical Association and with closely allied organizations, the Editor of the *Archives of Industrial Hygiene and Occupational Medicine*, the delegate from the Section on Preventive and Industrial Medicine and Public Health, the Chief of the Division of Industrial Hygiene of the U.S. Public Health Service and the President of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS have been appointed as ex-officio members of the Council.

Ex-Officio Members

THE ex-officio members appointed to the Council are as follows:

PHILIP DRINKER, Boston, in his capacity as Editor of *Archives of Industrial Hygiene and Occupational Medicine.*

STANLEY H. OSBORN, M.D., Commissioner of Health, Connecticut Department of Health, Hartford, in his capacity as Delegate from the A.M.A. Section on Preventive and Industrial Medicine and Public Health.

JAMES G. TOWNSEND, M.D., Washington, D.C., in his capacity as Chief, Division of Industrial Hygiene, U.S. Public Health Service.

ALFRED H. WHITTAKER, M.D., Detroit, in his capacity as President of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS.

Standing Orders

INDUSTRIAL NURSING: Some years ago the Council prepared "Standing Orders for Nurses in Industry" which were recommended to the profession at large as guides to practical physician-nurse relations in industry. Unfortunately, these orders have come to be regarded as substitutes for the personally devised and signed instructions of individual plant physicians and in certain areas have been used as subterfuges by nurses who engage in procedures for which they are not professionally qualified. Several prosecutions of nurses for violation of medical practice acts are of serious concern to the industrial medical and industrial nursing professions, as well as to industry itself. The entire matter of standing orders is currently under investigation by a joint committee whose findings will be used by the Council in its proposed revision of this material.

Accidents

ACCIDENT PREVENTION: Several recent resolutions of the House of Delegates have enunciated the great concern of the medical profession over the

growing menace of accidents. These resolutions express the intention of the American Medical Association to cooperate with all agencies interested in accident control. The Secretary of the Council participated in the President's Conference on Industrial Safety in the spring and placed on record with the Bureau of Labor Standards the American Medical Association's viewpoint. It is expected that this program, sponsored by the President through the U.S. Department of Labor, will come to be an important annual function.

Since the National Safety Council is the principal independent agency in the field, these same resolutions were submitted to its president and managing director. It has been determined that although many departments in the American Medical Association are concerned, it will be least confusing to channel all contacts through the Council on Industrial Health at the outset. It has been agreed also that a joint planning committee made up of three representatives from each group will meet to determine ways in which the doctor and the safety engineer can reduce accidents in industry, in the home, in the school and on the highway.

New Horizons

SOCIAL IMPLICATIONS OF INDUSTRIAL MEDICINE: In lieu of wage increases, present trends in labor-management negotiations emphasize welfare benefits, many of which involve the medical profession to a greater or lesser degree. Certainly the physician in industry will find his sphere of action and influence considerably broadened. It is doubtful that the medical interest involved is clearly realized, even by the profession itself. Two projects are expected to define the nature of and demand for medical participation in industrial welfare programs. The Council on Medical Service has appointed a committee to investigate over-all medical services for industrial workers and has invited the Council on Industrial Health to nominate members of this committee. In addition, it will consider cash sickness insurance with its attendant problems of certifying the nature and probable duration of non-occupational illness or injury. The Council on Industrial Health, the Board of Trustees and the House of Delegates all have approved the general policy of cooperative industrial health planning by management, labor and medicine, provided scientific and ethical standards are maintained. It is the Council's belief that this passive approval should be changed to active insistence. At all events, a definite policy is urgently needed.

The industrial physician also is assuming much greater importance in plant personnel and industrial relations. These have profound implications in our industrial civilization and involve also the professional skills of the sociologist, anthropologist and psychologist. The Council strongly feels the need for dependable advice along these several lines and is setting up a group of consultants capable of qualified consideration of these matters and with ability to carry on a program of integrated education and action.

Compensation

WORKMEN'S COMPENSATION AND REHABILITATION: Workmen's compensation administration has taken on added significance by reason of recent legislation in New York State which assigns responsibility for unemployment compensation for non-occupational disability to the industrial commission rather than to the state unemployment division. All state medical societies have been notified of the expert assistance in workmen's compensation problems now available through consultants attached to the Council on Industrial Health. The number and diversity of inquiries already received amply testify to the usefulness of this activity. A clearer understanding of the major issues in this important field has developed through professional contacts, correspondence, attendance at meetings, and questionnaires. There is universal agreement that great progress can be made by setting up some form of regular consultation between the state medical societies and the industrial commissions. To facilitate such consultation, records of successful administrative and medical procedure are being collected as a means for joint consideration. Liaison with the International Association of Industrial Accident Boards and Commissions and with the American Bar Association is planned and should promote better common understanding of medical, legal and administrative problems.

Although major responsibility for rehabilitation affairs rests with the Council on Physical Medicine and Rehabilitation, the Council on Industrial Health retains a major interest in those phases which deal with re-employment of the disabled. During the year, the Secretary of the Council was appointed a member of the Executive Committee of the President's Committee on National Employ the Physically Handicapped Week, in addition to acting as chairman of the Medical Subcommittee. A recent government appropriation gives assurance that this agency will conduct a vigorous campaign to give the handicapped not preferential treatment but equal opportunity for jobs they are capable of performing.

The 1950 Annual Congress

THE TENTH Annual Congress on Industrial Health, sponsored by the Council on Industrial Health of the American Medical Association, will be held at the Roosevelt Hotel in New York City, February 20 and 21, 1950. The sessions will feature discussions on industrial medical service, environmental hygiene, and human relations in business and industry. For detailed information, write DR. CARL M. PETERSON, Council Secretary, 535 North Dearborn St., Chicago 10.

INDUSTRIAL MEDICINE AND SURGERY

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Memorial Fund

THE AMERICAN FOUNDATION OF OCCUPATIONAL HEALTH is receiving sums of money as memorials to DR. SAPPINGTON. Already there are gifts from the INDUSTRIAL PHYSICIANS CLUB, of Detroit, the WESTERN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, and the CENTRAL STATES SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY. Though these are in DR. SAPPINGTON'S name, he would be the first to suggest that they be made the beginning of a permanent memorial gift fund, established by the Foundation, through which it can apply the remembrances to purposes in keeping with their intent. This might even be known as the "Pioneer Memorial Fund"—DR. SAPPINGTON'S 25 years of single-minded endeavor, and the unique place he made for himself in industrial medicine and industrial hygiene surely entitle him to be considered a pioneer in the full sense of the term. But however it may be called, such a memorial fund will be a thoughtful and pleasing means of tribute to those whom their friends want to honor.

The Donora Report

"AIR Pollution in Donora, Pa.; Epidemiology of the Unusual Smog Episode of October, 1948; Preliminary Report," is the title of Public Health Bulletin No. 306. This is a creditable piece of work, carefully prepared, and imposingly presented. It is in five parts: (1) Introduction; (2) Biological Studies; (3) Atmospheric Studies; (4) Discussion of Cause of Episode; (5) Summary and Recommendations. These make up a book of 174 text pages, about 9 x 12 in size, well illustrated with tables, charts and photographs. The comments on this report have been varied. It is praised on the one hand as being exhaustive and detailed, while on the other it is criticized as lavishly overdone. The criticisms have political overtones, centering mostly about the suspicion that the report was intended not only to present the facts but also to make an impression on Congress in connection with a substantial appropriation. A bill on the matter is said to be now in the hopper. There may be an element of propaganda in this picture. But, for once, we are tempted to say "What of it?" The Public Health Department hasn't been the fair-haired boy for quite some time. In this instance, if it wants money it is more than asking; it is impressively deserving.

Slips That Pass in the Smog

THE Letter to the Editor signed "Disgusted" (page 534) calls attention to something that should interest the Los Angeles Chamber of Commerce. We looked it up, and Bill Davidson's article in *Colliers* for October 22, 1949, actually says: "In Los Angeles, for example, the oil refineries poured a total of 700,000 tons of sulphur dioxide into the air every day—as recently as last autumn." That's an awful lot of sulphur dioxide! It is possible that the manuscript *might* have read "700 to 1000 tons," or even "700,000 pounds." But maybe it was a smoggy day outside, and the compositor, having set the article up to that point, was so keyed to its tempo of panic that he was afraid anything less than "700,000 tons" would be anticlimax.

No Politics

A WASHINGTON columnist tells us that "thousands of words have been rained upon the reading public about the inequities (sic) of bureaucrats." And then, to prove that there are good bureaucrats, he mentions the bureau at Bethesda, Maryland, where the sign on the door says: "Infectious Diseases." Inside, "the doctor in charge of polio research, DR. CHARLES ARMSTRONG, spent eight months in bed and nearly died from tularemia, or rabbit fever, and also came down with dengue fever, parrot fever, Q fever and encephalitis on other assignments. Another important research task force, under DR. LEON ATLAS, is exploring the common cold. He

already has isolated the elusive virus which causes colds .... Two other researchers, DR. CHARLES SHEPARD and DR. ROBERT HUEBNER, have made encouraging progress in the fight against Q fever —and, as usual, caught Q fever in the process. Doing field work in Texas DR. JAMES WATT traced bacillary dysentery to flies and was able almost to eliminate it by fly control. Now he is continuing his experiments in another area near New Orleans. All research in the laboratory is under the general supervision of DR. KARL HABEL, who has been bedridden with Q fever and encephalitis, but is now searching for a potent rabies vaccine." These men deserve unstinted praise. They are doing a wonderful work, for considerably less remuneration than could be theirs in private practice. But why call them "bureaucrats?" The mainspring of their interest isn't the fact that they are employees of the government. They do what they do because they are doctors.

Published Here

THE current *Reader's Digest* (December, 1949) has an article by Paul de Kruif entitled "Is This, at Last, Good-Bye to the Common Cold?" The opening paragraph states that on November 15, 1949, "occurred the scientific publication—in the *New York State Journal of Medicine*—of a powerful preventive, etc." The "scientific publication" referred to is an article by DR. JOSEPH J. ARMINIO and DR. CHARLES C. SWEET on their controlled study of an antihistamine in the treatment and prevention of colds. The place of publication, however, was not as above set forth, but *is* this issue of INDUSTRIAL MEDICINE AND SURGERY, where the article by DRS. ARMINIO and SWEET will be found on pages 509-511.

Tactful Overture

AT ITS first meeting in September the new Advisory Committee to the Public Health Service on industrial hygiene made the recommendation that the Surgeon General enter into consultation with the Secretary of Labor, looking toward the solution of conflicts in the field of industrial hygiene. "An agreement should be reached giving full recognition to the proper function of the Federal and state labor departments in the enforcement of laws, codes, and regulations affecting the safety, health, and well-being of workers in industry. The agreement should also give full recognition to the highly important functions of the Public Health Service and the state departments of health in the technical and medical fields of industrial hygiene. These two important groups should jointly integrate these efforts to insure the good health and well-being of workers in industry. When such agreement is reached, it should be circulated to the appropriate state agencies as to suggested policy in the field of industrial hygiene." The good sense of this recommendation is self-evident. It is a tactful and reasonable approach to a situation that ought to be resolved. The results of the Surgeon General's overtures will be awaited with interest.

DR. PILGRIM

DURING the last five years or so the little department titled as above has appeared regularly in these pages. It will not be there any more. Its author has completed his pilgrimage. Mid-morning of Sunday, November 6, he crossed the deep river and came to the shining city. At the gate it was reported of him that the part of the world where he had been was a little better for his having lived in it. And then the gate closed upon him, and he was parted from the sight of his friends. And it was said among them that, of the Pilgrims who had made the journey, he was like to Mr. Valiant-for-Truth. For truth was in him, and he was stalwart in its cause. His lifetime vision of his field of endeavor was the embodiment of truth—scientific, human—in principles, standards, meanings, applications. So firm was his conviction of truth that it almost was prophecy; so sound was it that he lived to see much of it become fact. Withal he was a gentle man, kindly, thoughtful, understanding. He loved his work, his home, his music, his friends. His "Dr. Pilgrim" column was especially dear to him because in it he could mention his friends. As we say goodbye to it, and to the simple, forthright, guileless, lovable soul who wrote it, we think again of the text of "Pilgrim's Progress," which now has utmost significance: "After this it was noised abroad that Mr. Valiant-for-Truth was taken with a summons by the same post as the other, and had this for a token that the summons was true, that his pitcher was broken at the fountain. When he understood it he called for his friends and told them of it. Then he said: 'I am going to my fathers, and though it is with great trouble that I have got hither, yet now I do not repent me of the pains I have been at to arrive where I am. My sword I give to him that shall succeed me in my pilgrimage; my courage and skill to him that can get it. My marks and scars I carry with me to be a witness for me that I have fought His battles who now will be my rewarder.'"

Page 539-540 removed for Index

The Importance of Safety in Antihistamines

SOME COLD FACTS BROUGHT TO YOU BY THE SAFEST THERAPEUTICALLY EFFECTIVE ANTIHISTAMINE

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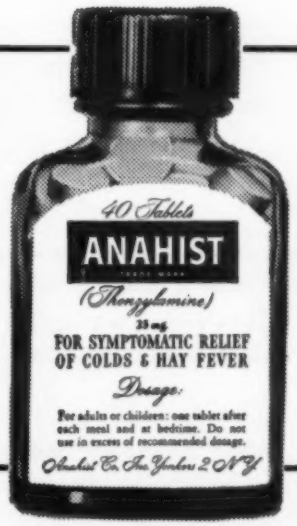
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NEWS, COMMENT, OPINION

"Pick-Me-Up"

MY ATTENTION has recently been called to the habit prevalent in some localities of raiding first-aid kits for aromatic spirits of ammonia. Purpose: an early morning pick-me-up. Anyone who uses this method of getting a little of the hair of the dog that bit him is certainly getting all the hair, and most of the hide! The dangers inherent in this type of self-medication are obvious, and the cure is to be found in replacement of the liquid by ampoule type inhalants or stimulants. It is, however, of sufficient importance to industry to demand a concerted effort to combat it.

—From "Self-Medication," by ROBERT W. BUTLER, M.D., in *Industrial Nursing News Letter*, October, 1949.

Already

THE system was put into operation in England on July 5, 1948. Already obstetric and dental anesthesia and endocrine therapy have been banned because the authorities consider them to be unnecessary.

—M. PIERCE RUCKER, M.D., quoted in *Newport News, Virginia, Press*, October 11, 1949.

Fire

STATIC electricity from a man's body was blamed for a fire in an Indianapolis paint factory. When the man opened a lacquer thinner valve, flames shot out into the room.

—*Fire Insurance Facts & Trends*, October, 1949.

All-India Conference

UNDER the auspices of the Society for the Study of Industrial Medicine, the first All-India Conference on Industrial Medicine will be held on December 22 and 23, 1949, at Jamshedpur, the largest, and one of the oldest, of the industrial centers in India. The Society's headquarters are at Tata Main Hospital, Jamshedpur, Bihar, India.

Post-Graduate

BEGINNING with the current academic year, the Harvard University School of Public Health's department of industrial hygiene has undertaken a new type of post-graduate industrial health program. This, divided into three major fields: industrial medicine, environmental hygiene, and public health, includes courses in planning, organizing and directing health efforts of industrial companies, whole industries, groups of companies and employees. The related teaching and research facilities of Harvard University including certain special facilities at the Massachusetts Institute of Technology and other cooperating institutions, are available. The head of the department is PHILIP DRINKER, L.L.D. The courses are open to all qualified physicians, with preference to persons who have had experience in industrial medicine. Successful candidates will be awarded the newly established degree of Master of Industrial Health. Applications may be sent direct to the

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secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15.

—*Am. J. Public Health*, October, 1949.

Conflicts

WE HAVE recently appointed an advisory committee to work with our industrial Hygiene Division. The first of a series of formal recommendations made by this committee was this: "The committee recommends that the Surgeon General enter into consultation with the Secretary of Labor looking toward the solution of conflicts in the field of industrial hygiene. An agreement should be reached giving full recognition to the proper function of the Federal and state labor departments in the enforcement of laws, codes, and regulations affecting the safety, health, and well-being of workers in industry. The agreement should also give full recognition to the highly important functions of the U.S. Public Health Service and the state departments of health in the technical and medical fields of industrial hygiene. These two important groups should jointly integrate these efforts to insure the good health and well-being of workers in industry. When such agreement is reached, it should be circulated to the appropriate state agencies as a suggested policy in the field of industrial hygiene."

—From "Immediate and Urgent Problems in Public Health," by SURGEON GENERAL LEONARD A. SCHEELE, M.D., at the meeting of State and Territorial Health Officers, Washington, D.C., October 19, 1949.

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Joint Responsibility

AT THE first general meeting of the Annual Convention of the Medical Society of Virginia, October 10, 1949, DR. ROBERT LOMAX WELLS of Washington, Medical Director for the Chesapeake and Potomac Telephone Company, stressed the importance of the "joint responsibility" of the private practitioner and the industrial physician. Industrial physicians" he said, "are striving, and succeeding in most quarters, in establishing a realistic and ethical pattern for industrial medicine, one that is fair and productive of benefits to all parties concerned. Management, labor and medical leaders have all contributed to a better understanding of this field of medical practice. The physician practicing industrial medicine today does not change his concept of medical ethics and does not seek to violate confidential relationships because he has elected to interest himself in the problems of both employer and employee. He has simply broadened his horizon. He now has a bilateral sphere of influence on the health of the worker... It is not sufficient to know that your patient works for the government, in a store or in a factory. You must know something of what that patient does on the job in order to know whether or not it is influencing the patient's health and if

he or she can safely carry out the job requirements without harm to self or fellow workers. Also, Dr. Wells pointed out that the greater part of the patient's life is of necessity spent away from the job and under other influencing factors. "How does your patient get to and from his job? How long does it take him? These are real factors affecting his whole health outlook and particularly his emotional pattern. I would urge you to consider these influences and not to let yourself fall into the habit of 'blaming everything on the job.'"

—*Newport News, Virginia, Press,* October 11, 1949.

Industrial Hygiene Code

A UNIFORM code of industrial hygiene for use by health and safety authorities will be developed by a committee of the American Standards Association, working with representatives of all groups concerned with the health of workmen. This was determined at a meeting of the A.S.A.'s safety code correlating committee in the Waldorf-Astoria, October 11. The proposed code, for guidance of regulatory authorities and individual plants, was recommended at the opening session of the standards group's thirty-first annual meeting. A draft of an actual code of this type was presented to the safety code committee by the American Conference of Governmental Industrial Hygienists and accepted by the A.S.A. group as a basis for study. At the same time, the safety code group authorized the formation of a special committee to determine the scope of the proposed coordinated material standards, how the work shall be carried out, and to recommend what industrial groups should participate. The objective is to frame these standards in time to report them to the President's Conference on Industrial Safety which is scheduled to be held next June. While separate standards have previously been framed through the A.S.A. on such topics as adequacy of lighting, protective equipment for the head and eyes, and allowable concentrations of dusts and gases, the new committee is understood to be aiming at standards of much broader scope. Provisions covering medical and health services, administration of health and safety measures and responsibilities of employers and employees were contained in the code proposed by the governmental industrial hygienists and accepted as a basis for study.

—*From New York Herald-Tribune,* October 12, 1949.

Leprosy

IN ENLIGHTENED countries industrial concerns are more and more acknowledging their responsibility for patients who contract disease in the course of their work. If such a rule is applied to leprosy, it is obvious that preventive work must not wait until the disease has advanced to a point at which it can no longer be hid. Not only at the initial medical examination when the worker is first employed, but also at periodical general medical examinations leprosy must be looked for. This implies that the examining doctors are familiar with the signs of leprosy. Moreover, whatever

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type of leprosy is found, tuberculoid or lepromatous, the patient's vocational, domestic and social contacts should as far as possible be examined, to find out those from whom he has acquired the disease or to whom he may have transmitted it. Too often leprosy has been considered a condition apart, scarcely worthy to be classed as a disease. Its existence has been considered a disgrace, one to be hidden, not to be faced. Its alleviation has been left to charity rather than accept its control as a responsibility. An asylum for the down-and-out beggar has been mooted as a concession to aesthetic taste. This attitude is neither scientific nor business like; it leads nowhere and merely postpones the evil day. Leprosy control must cover the whole industrial unit, including the camp-followers in the outskirts. It must furnish clinics which may economically be combined with skin, venereal and other diseases. There must be surveys, follow-up and examination of contacts, and these must be continuous, not sporadic. Provision must be made for wards and private quarters to suit all kinds of patients who need isolation or hospitalization. Non-infectious, or only slightly infectious, cases when they need hospital treatment should find it in the general hospital. There must be a thoroughly trained and adequate staff; but it is not always economic to deal with leprosy by itself when surveys and examinations have to be made. It may be wiser to combine leprosy with other diseases and public-health subjects. Above all, much will depend on the status, knowledge and enthusiasm of the specialist in charge, and the support given him by the management, his colleagues and the public. Leprosy, though its morbidity and fatality are far less than those of tuberculosis and other endemic diseases, produces perhaps most dread and distress of all. It would be strange indeed if the faith, courage and business acumen, which have raised the Jamshedpur industries to their present high level, did not succeed in bringing this scourge under control within the near future.

—From "Leprosy and Industry," by ERNEST MUIR, C.M.G., C.B.I., M.D., F.R.C.S. (Edin.), in *Proceedings of the Society for the Study of Industrial Medicine*, Jamshedpur, Bihar, India, *Quarterly Journal*, September, 1949.

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Bacitracin Ointment-C.S.C. is indicated in the treatment of many cutaneous infections: infectious eczematoid dermatitis, infected ringworm, infected eczema, ecthyma, infected wounds and ulcers, furuncles and carbuncles. It makes an excellent surgical dressing for draining wounds.

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Industrial Medicine Symposium

A SYMPOSIUM on Industrial Medicine, sponsored by the Committees on Industrial Health of the Illinois State and Chicago Medical Societies, the A.M.A. Council on Industrial Health, the Division of Industrial Hygiene of the Illinois Department of Public Health, and the Department of Preventive Medicine and Public Health, College of Medicine, University of Illinois, was held on November 2, 1949, at Chicago, with the following program:

"The Need for Cooperation between the General Medical Profession and Industry"—GEORGE F. LULL, M.D., Secretary and General Manager, American Medical Association.

"What Kind of Medicine Does Industry Need?"—ARTHUR K. PETERSON, M.D., Medical Director, R. H. Donnelley Corporation, Chicago.

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"How Can the General Practitioner Help Out?"—JOSEPH H. CHIVERS, M.D., Medical Director, Crane Company, Chicago.

"Pitfalls in Diagnosis of Occupational Diseases"—MILTON H. KRONENBERG, M.D., Assistant Medical Director, Caterpillar Tractor Company, Peoria, Illinois.

"Compensation Problems in Industrial Medicine"—C. O. SAPPINGTON, M.D., DR. P.H., Industrial Health Consultant, Chicago.

"Practical Points in the Management of the Industrial Dermatoses"—LEONARD F. WEBER, M.D., Clinical Professor of Dermatology, University of Illinois, Chicago.

The purposes of this Symposium were (1) To assist the practitioner of medicine in the management and care of industrial diseases. (2) To stimulate cooperation between the general practitioner and industry. (3) To bring about a better understanding of industrial health programs in Illinois. (4) To promote an interest in industrial medicine.

Safety in Athletics

THIS WEEK, the magazine section of *Chicago Daily News*, November 26, 1949, has an article by MORT WEISINGER entitled "They Don't Have to Get Hurt," which explains how schoolboy athletics can be safe. The author mentions DR. VINCENT NARDIELLO, examining physician for the New York Boxing Commission, who recommends the new thumbless boxing glove to prevent eye-gouging and thumb dislocations; and DR. HARRY E. MOCK, SR., who for more than

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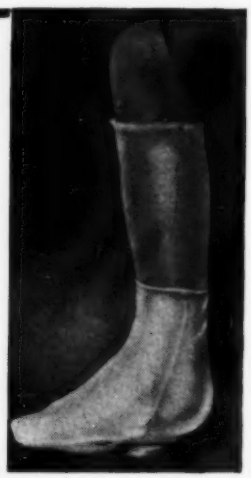

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25 years has been gravely concerned with football fatalities, and has made a specialty of the problem of head injuries to gridiron athletes. "Together with his two sons, also surgeons, DR. MOCK analyzed the case histories of more than 8,000 injured players from every state. Their conclusions: 'Modern football helmets offer inadequate protection, leave the base of the skull and the back of the neck vulnerable. The player who wears a plastic helmet is committing athletic hari-kiri.'"

Phantom Pain

AMPUTEES may look forward to relief from phantam limb pain, according to a British physician who gives the glad news in a *British Medical Journal* article. The nerve endings in the stump are given a periodic thumping with a wooden mallet or mechanical vibrator. Usually, the pain disappears within 10 minutes, says the doctor. And he adds that the patient can readily learn to do the thumping himself.

—*Rehabilitation News Letter*, November, 1949.

New Medical Center

THE NEW, modern building under construction on the property of American Cyanamid Company's Calco Division Plant will bring to the company's employees and to the members of the Piney River community the full-time services of a doctor. For many years the residents of Piney River have been forced to travel long distances to a larger center for medical attention, their small numbers hardly warranting the full-time services of a resident physician. In the beginning, too, Cyanamid felt that its employee group was so small and medical attention so rarely needed that doctors in neighboring villages could take care of them. As the plant grew in size, however, the new employees and their families settled in the Piney River community, the need for a permanent doctor became more and more apparent. A recent survey by the head of the Medical Department of American Cyanamid Company, DR. D. O. HAMBLIN, confirmed the growing need. The company decided, therefore, to erect a building on its own property and to install a competent doctor who would take care of the medical requirements of the community as well as those of the company employees. Construction of the building is well under way, and the services of DR. ERWIN L. HIRSLEY have been obtained. DR. HIRSLEY was born in Glognitz, Austria, in 1908, approximately 50 miles south of Vienna. He attended public schools in Vienna and graduated from the University of Vienna Medical School in 1933. Internship, resident and post-graduate training were at various hospitals in Vienna. He taught anatomy at the University of Vienna Medical School for three years before and after graduation, and was a general practitioner near Vienna for about two years. For the next three years he was associated with the American Methodists and English Presbyterians as a Missionary Doctor to China. He came to the United States in 1940. From 1940 to 1945 he did general and industrial practice in

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(1 Freed, J.A.M.A., Feb. 8, 1947)

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various parts of this country. From 1945 to 1949 he was a commissioned officer with the U.S. Public Health Service serving in New Mexico, Alabama and North Carolina. He will be employed by American Cyanamid Company to take care of occupational medical needs of employees several hours a day. The rest of his time will be devoted to private practice among the residents of Piney River and nearby communities.

—*Amherst, Virginia, New Era Progress*, November 3, 1949.

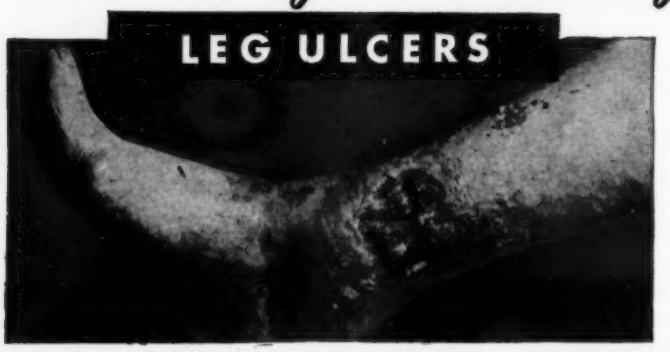
Industrial Medical Seminar

THE seventeenth in a series of industrial medical seminars sponsored by the American Mutual Liability Insurance Company for the purpose of disseminating information on advanced practices in the care and treatment of occupational diseases and injuries, was held at Hotel Lincoln, Indianapolis, Indiana, November 30 and December 1. The opening session on Wednesday was a discussion of perplexing problems in the treatment of industrial injuries. DR. EDWARD C. HOLMBLAD, of Chicago, presided. The panel was composed of DR. ALLAN K. HARCOURT, of Indianapolis, who discussed hand and tendon injuries; DR. RUSSELL W. LAMB, also of Indianapolis, whose subject was varicose veins; DR. CARLISLE R. PETTY, of Louisville, who spoke on psychology and mental attitude; DR. KEITH E. SELBY, of South Bend, whose discussion was on burns, minor and serious; DR. HOMER H. STRYCKER, of Kalamazoo, who discussed bursitis-synovitis and knee joint problems, and DR. RICHARD A. SUTTER, of St. Louis, whose subject was hernias and abdominal strains. Thursday morning there were four speakers, under the guidance of DR. HOLMBLAD. DR. ALFRED H. WHITTAKER, of Detroit, discussed fractures; DR. ERIC OLDBERG, of Chicago, spoke on head injuries; DR. HARRISON L. McLAUGHLIN, of New York, treated of the subject of shoulder injuries; and DR. JOHN W. FROST, of Indianapolis, defined the present status of antibiotic therapy. At the Thursday afternoon session, a discussion of physical medicine and rehabilitation in the treatment of traumatic injuries was given by DR. GEORGE G. DEAVER, of New York. The American Mutual's entire medical seminar program is under the direction of A. DUDLEY BRITTON, of Boston, director of medical relations for that company.

Report from Britain

FACED with the possibility of a medical new deal in the United States, American physicians want whatever cues they can get from the States Medical scheme in Britain. The following are a few such cues: Normally, the largest number of patients a general practitioner can have under the National Health Service is 4,000. The practitioners state that if they have a big list of say 4,000 they cannot give decent service. If, on the other hand, they have a reasonable list of say 2,000 patients, that they cannot make a decent living. The National

for the successful treatment of...



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—JOHN H. GASKINS, M.D., in *Jackson County Medical Society Weekly Bulletin*, November 5, 1949.

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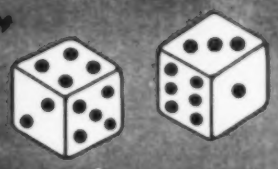

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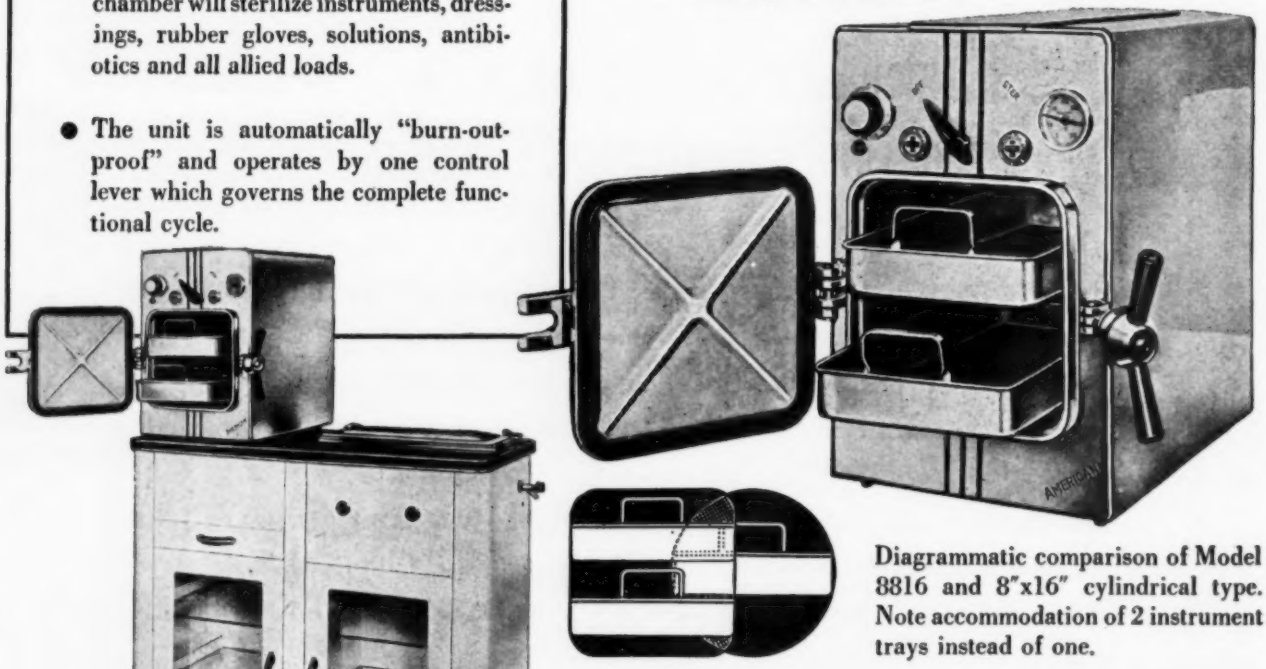

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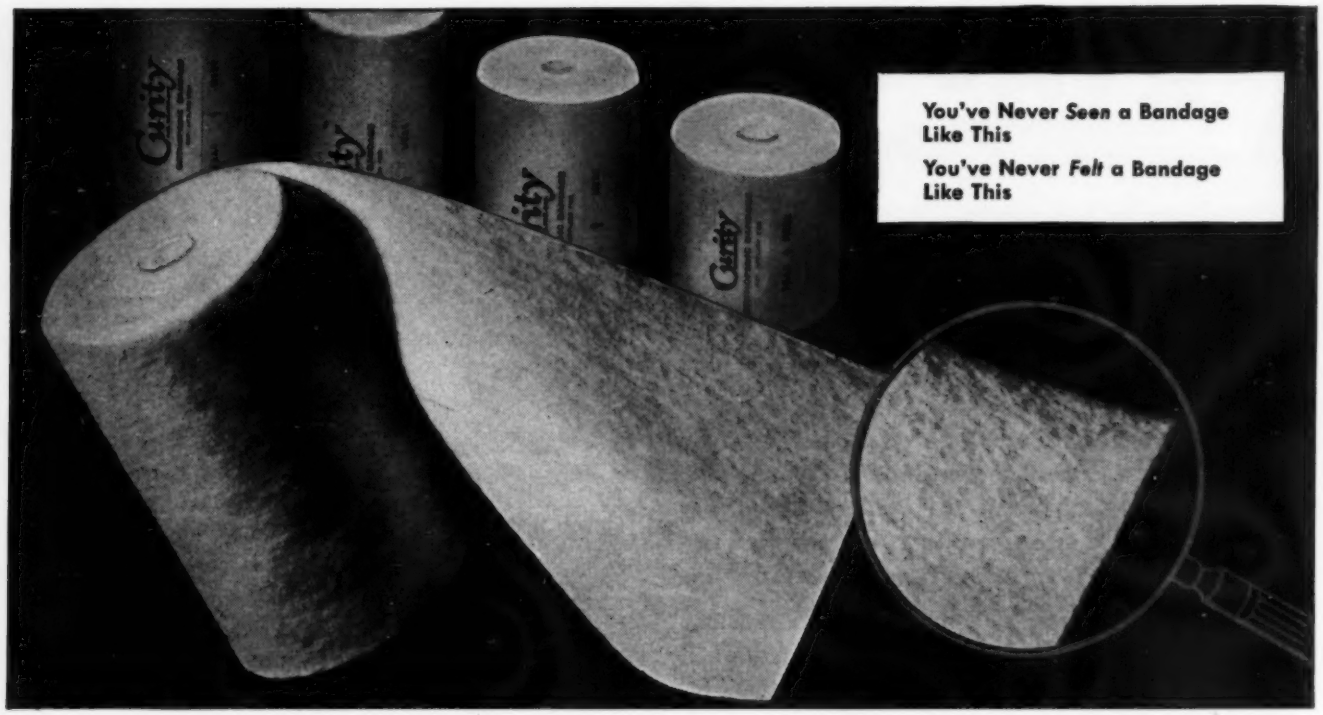

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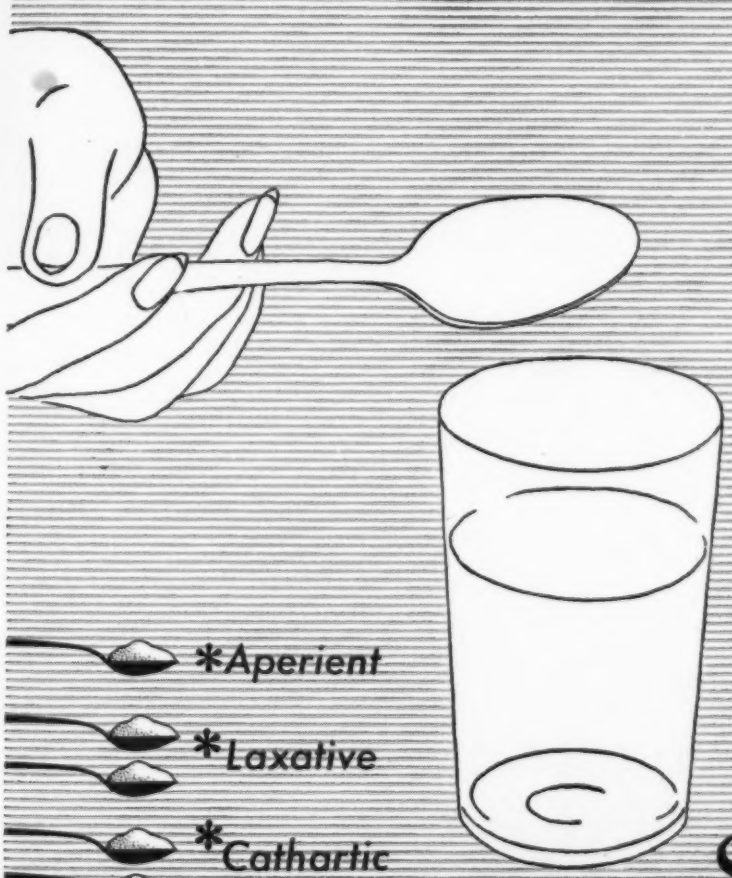

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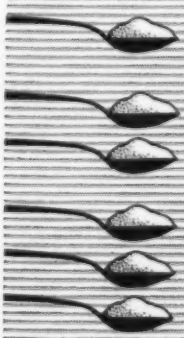

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1. Gordon, John S.: Laryngoscope, 58: 1265 (Dec.) 1948.
2. Murray, H. C.: Indust. Med. 18: 215 (May) 1949.
3. Brewster, John M.: U. S. Nav. M. Bull. 49:1 (Jan.-Feb.) 1949.

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